

(a)
Indian Medical Journal

Aug 1939

JL
Lm2, NB6
N39.33.8
123943

The Indian Medical Journal



FOUNDED 1906

Organ of the All-India Medical Licentiates' Association

(With which THE AGRA MEDICAL CLUB JOURNAL is incorporated)

Vol. 33. No. 8

CONTENTS

273

August, 1939

Addresses & Articles

The Widal and the Wassermann Tests

DR. S. BALASUNDARAM ... 259

Post Partum Hæmorrhage

DR. MISS L. BHUYAN ... 263

A Plea for a more Extended Use of
Oxygen Therapy

DR. GUHA. ... 265

Treatment of Corneal Ulcer

DR. K. KRISHNAMURTI ... 267

Secondary Effects of Small-pox
Vaccination

DR. DADHICH SINGH ... 268

Editorials

Clinical Sense ... 269

Life Insurance without Medical
Examination ... 270

Medicine as a Career ... 271

Current Comments

Sulphanilamide in Small-pox ... 272

Detection of Tuberculosis Infection ... 272

The Limitations of Tuberculin Test ... 273

Oestrogen Therapy in Vulvo-vaginitis ... 273

Post-Graduate Article

Pulmonary Tuberculosis (3) Physical
Signs and Symptoms

DR. SAMUEL RAM SINGH ... 277

TUBERCULOSIS NOTES ... 277

Medical News—Reviews—Extracts
WITH MEDICO - POLITICAL SUPPLEMENT

Annual Subscription: INDIAN Rs. 6

FOREIGN Rs. 7-8

Single Copy: Ordinary Number Rupee Eight

Special Number Rupee One

Editorial and Publishing Office: 131, Coral Merchant Street, MADRAS.

Agents in U. S. A.: Universal Publishers Representatives, Inc., 500 Fifth Avenue, New York.

PUBLISHED ON THE 15TH OF EVERY MONTH

Ergoapiol-(Smith)
 REG. U.S. PAT. OFF. AND FOREIGN COUNTRIES

A Menstrual Regulator...

When the periods are irregular, due to constitutional causes, ERGOAPIOL (Smith) is a reliable prescription. Containing superior ergot and apiol (M.H.S. special) together with aloin and oil of savin of the highest quality, this preparation effectively stimulates uterine tone and controls menstrual and postpartum bleeding.

In cases of **Amenorrhea, Dysmenorrhea, Menorrhagia and Metrorrhagia**, Ergoapiol serves as a good uterine tonic and hemostatic. Valuable in obstetrics after delivery of the child and for the menstrual irregularity of the **Meno-pause**.

Prescribe 1 to 2 capsules 3 or 4 times daily. Supplied only in packages of 20 capsules. Literature on request.

As a safeguard against imposition the letters MHS are embossed on the inner surface of each capsule, visible only when the capsule is cut in half at seam as shown.

MARTIN H. SMITH COMPANY
 NEW YORK, N.Y., U.S.A.

In all cases of debility or anæmia

123743 YOU can prescribe no finer tonic than Wincarnis. Prolonged convalescence and slow recovery causing fears of relapse frequently manifest themselves after severe illnesses and operations. To counteract these conditions, Wincarnis should be administered once or twice daily to the patient. Its attractive aroma and taste will sharpen the appetite even in cases where the daintiest diet proves repugnant. Its strength-building elements and vitamin malt extract will encourage healthy sleep, enrich the bloodstream, restore vitality and resistance and stimulate the patient generally. It is easily assimilable, and can be prescribed with perfect confidence for all cases exhibiting tendencies to anæmia. Whenever vitality is at a low ebb—after influenza, bronchitis, malaria, and severe illness of all kinds—

Prescribe
WINCARNIS
The Tonic Wine

OVER 25,000
 RECOMMENDATIONS
 FROM MEDICAL MEN

Coleman & Co. Ltd.,
 Wincarnis Works,
 Norwich, England



HEWLETT'S MIXTURE
 With or without opium
 (Mist. Pepsinæ Co. c. Bismutho, Hewlett)
 for
DYSPEPSIA and DISEASES OF THE STOMACH
OVER 60 YEARS' REPUTATION.
DOSE: Half to one drachm diluted.
 Price in England: 4-oz. bottles, 10d. oz.;
 10, 22, 40 and 90-oz. bottles, 12/6 lb.

Introduced and prepared only by
C. J. HEWLETT & SON, LTD.,
 35/42, Charlotte Road, LONDON, E.C.2.

Agents who stock Hewlett's preparations.

CALCUTTA:
 Smith Stanistreet & Co., Ltd.
 M. Bhattacharyya & Co.
 B. K. Paul & Co., Ltd.

BOMBAY:
 Amersey Khimjee & Co.
 Ratilal Hemraj

MADRAS:
 Madras Drug Store
 Dadha & Co.
 Appah & Co.

A GENUINE - - - - PORT WINE TONIC



LADCOVINE

is an exceptionally palatable re-constructive tonic. It provides (1) Port Wine, to improve digestion and assimilation; (2) Glycero-phosphates, to maintain Neuro-muscular tone; (3) Copper, Manganese, to combat anæmia; (4) Bitters and Malt extract, to act as stomachic. An appetiser, a digestive and nutritive tonic, LADCOVINE is an ideal preparation at all times.

ASK FOR ILLUMINATING
 LITERATURE

**THE LISTER ANTISEPTICS
 & DRESSINGS CO (1928) LP**
 GOSSIPUR, CALCUTTA



HORMON-VITAMIN-LECITHIN FOOD

NATURAL RESTORER OF VITALITY AND VIGOUR

INDICATIONS:

In pregnancy and lactation, for nursing mothers.
In enfeebled conditions, lost energy and appetite.
In rickets, scophula, tuberculosis, dental diseases.
For all brain workers, students, artists, sportsmen.
Improving growth, nerve debility, reconvalescence

TO RESIST AGAINST DISEASES

Rp!

Vitamin A	0.04 gr
Vitamin B1	0.04 "
Vitamin C	0.50 "
Vitamin D	0.0025 "
Hypophys. ant.	0.10 "
Calc. glycerophosph.	5.0 "
Calc. lactic.	5.0 "
Lecith. album.	25.0 "
Sacchar. Uvae.	25.0 "
Mineral Vitamin ad.	100.0 "

Directions for use:
one teaspoonful three times a day with water after meals.

Dr. Richard Weiss Berlin NW 7

LEUCODERMA

TREATMENT WITH

OLEUM PSORALIA CORYLIFOLIA (S.C.T.)

Oleum Psoralia S.C.T. in demand from Europe, America and other foreign countries, widely used throughout India and strongly recommended by the Dermatologist, Medical College, Calcutta, and Calcutta School of Tropical Medicine.

Other (S. C. T.) Products:

Oleum Hydnocarpus Co. (A) & (B) for Leprosy.

Anti-Cholera Drops.
Anti-Dyspepsia Pills.
Baldness Cure.

TUBERCULOSIS

TREATMENT WITH

ALLYL Co. (S.C.T.) and a Dietetic Course

Free Literature and free Medical advice

Apply, enclosing a nine pice stamp, to:-

School of Chemical Technology,
P. 154, Lake Road, Kalighat, CALCUTTA.

"MODERN MEDICAL TREATMENT"

By

Jamiat Singh, M. D. (Pb.), F. R. C. P., (Edin.),
D. P. H. (Edin.)

King Edward Medical College, Lahore.

One of the best and most up-to-date books on modern treatment giving treatment of Tropical diseases of heart, lungs, and kidneys, diseases of skin, children and women etc.,

OPINIONS

I have carefully read this book and have no hesitation in strongly recommending it to all civil surgeons, assistant surgeons and assistant medical officers throughout the province. SD. N. M. WILSON, COL, I.M.S., Inspector General of Civil Hospitals, C.P.

Of special value to medical students and practitioners in India. SD. S. L. BHATIA, LT. COL. I.M.S., Dean, Grant Medical College, Bombay.

Price Rs. 10/4. Postage extra.

Can be had from

THACKER, SPINK & Co., (1933) LTD.,

P. O. BOX 210. CALCUTTA

ATMA RAM & SONS, Book-sellers, LAHORE.

TRY & BE CONVINCED

TRACHORINE

(REGD.)

Specific for Trachoma & its complications

LEUCOMINE

(REGD.)

Specific for Leucoma, Corneal opacities, Blepharitis, Pterygium, etc., etc.

For free literature and other details write to:-

THE JAWAHIR CHEMICAL WORKS,
AGRA.

Chief Agents for Madras Presidency:-

MESSRS. JAGATH JANANI GENERAL AGENCIES,
119, Big Street, Triplicane, P. O. Box No. 403, Madras.

R. C. GHOSE & SONS

BEST & CHEAPEST WHOLESALE HOME

285/4, BOWBAZAR ST, CALCUTTA.

Alembic ELIXIR VALERIAN BROM



A SOOTHING AND HYPNOTIC PREPARATION FOR ALL NERVOUS DISEASES OF FUNCTIONAL CHARACTER.

Free from Dangers of the Barbitol Hypnotics.
More efficient than ordinary bromides.

ALEMBIC CHEMICAL WORKS Co. Ltd.
Bombay, Baroda, Madras, Calcutta.



For
Rapid Regeneration of Blood

VIRAMIN

Contains :

Vitamin B₁, B₂, B₄

The Anti-anaemic Erythropoietic
Active Principle of Liver combined
with Iron, Copper and Manganese
in a palatable malt base.

Also available with **COD LIVER OIL**

BENGAL CHEMICAL
CALCUTTA : : : BOMBAY

Madras Agents:—N. DASAI GOWNDER & CO., 41, Bunder Street, MADRAS.

'SALVITAE'

FOR

GOUT AND RHEUMATISM

GOUT and RHEUMATISM may be said to be due to :

- (a) Under Retention of the products of Faulty Metabolism
- (b) Over-acidity or under-alkalinity of the Blood Stream
- (c) Inactivity of the Eliminative Organs

These conditions give rise not only to acute rheumatic inflammation of the joints and active congestive gouty attacks, but also act continuously to poison all the tissues and organs with small, but frequently repeated, doses of toxic agents. Thus the physician is frequently called upon to relieve vague muscular pains in varying parts of the body, constituting what might be termed a more or less chronic rheumatic infection of the entire organism.

The two cardinal indications in all such cases are:

- (a) Neutralisation of the Hyperacid State
- (b) Encouragement and Stimulation of Elimination

From the very nature of its composition, SALVITÆ is especially adapted to accomplish both of these necessary objects. It not only restores the alkalescence of the circulating fluid, but also materially aids, as a diaphoretic, diuretic, laxative and general anti-uratic, in activating the skin, kidneys and intestinal tract, thus bringing about a more rapid and complete elimination of the excrementitious substances.

AMERICAN APOTHECARIES COMPANY, (New York)

The Choice is yours!

FAITES VOS JEUX!

The croupier invites.....the
choice is yours.

"GONEAL" invites you too to try
it. But it is no gamble when your
choice is "GONEAL". It is approved
and used by Venerologists all over,
in GONORRHOEA and its COMPLI-
CATIONS.

USUALLY ONE BOX is sufficient for
one course. Painless injections; Little
or no reaction.

Rs. 5/- a box of 5 amps. of 2 cc. for
intramuscular use.

Postage and Packing charges **FREE**
for **ORDERS** from **DOCTORS** only.

Sole Agents for India & Ceylon:—

GOPAL & CO.,

10, T. P. KOIL STREET, TRIPPLICANE, MADRAS.

TELEGRAMS: "GOPAC" MADRAS.

Phone 86036.

I. M. J. Advertiser

"Interstitial"

This preparation is introduced by the "PISA" National Institute on the base of the more recent acquisitions in the field of interstitial endocrinology.

It is a complete extract of the testicular gland obtained by special means which aim to the extraction of the lipoid active substances contained in the Interstitial gland, emulsified in a watery extract of equal quantity of testicular gland so as to extract the specific hormones contained in the germinative part of the organ.

It must not therefore be confused with the current testicular extracts from which it is distinctly different for its special method of preparation.

Indicated in Nervous breakdown, Neurasthenia, Debility, tiredness, etc.

Rs. 6-12-0 a box of 12 amps. of 2cc. for intramuscular use.

Postage and Packing charges **FREE** for **ORDERS** from **DOCTORS** only.

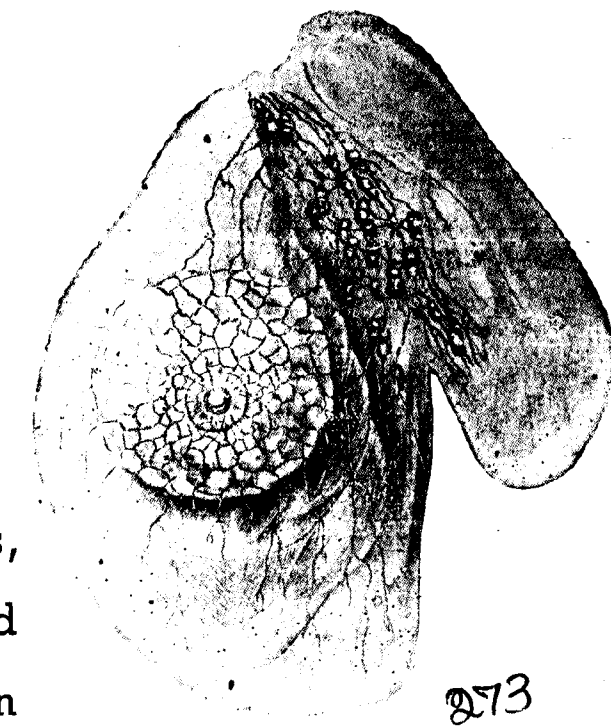
Sole Agents for India & Ceylon:—

GOPAL & CO.,

10, T. P. KOIL STREET, TRIPPLICANE, MADRAS.

Telegrams: "GOPAC" MADRAS.

Phone 86036.



IN Mastitis,
in threatened
Abscess or in

other acute Inflammatory Processes
of the Breast,

Antiphlogistine

finds one of its most satisfactory uses.

It promotes resolution,
it soothes, supports and
facilitates healing.

Sample and literature on request

THE DENVER CHEMICAL MFG. CO.
163 VARICK STREET, NEW YORK CITY

MULLER & PHIPPS (India) Ltd.,

P. O. Box 773, Bombay.



CARIPEPTIC LIQUID

STANDARDIZED ENZYMES OF CARICA PAPAYA WITH DIASTASE.

Caripeptic Liquid contains in palatable, stable and active form, the proteolytic, amylolytic and rennetic enzymes of Carica Papaya, fortified as to starch digesting power by the addition of diastase. It affords in one prescription a vegetable digestant, plus the carminative and psycho-secretory factors necessary in successful treatment.

Caripeptic Liquid is a pronounced carminative. When it is taken after a meal, the immediate subjective effect is a sensation of a gastric stimulation; the sense of well-being and comfort spoken of by pharmacologists in describing carminatives. This carminative phase is frequently soon succeeded by evidence of active digestive action apparent in subsidence of the feeling of oppression or discomfort occurring in dyspeptic subjects.

SUPPLIED IN 8, 16, AND 128 OUNCE BOTTLES.

Manufactured by :

THE UPJOHN COMPANY,

KALAMAZOO, MICHIGAN, U. S. A.

Sole Agents :

T. M. THAKORE AND COMPANY,

5, SUNKURAMA CHETTY STREET, G. T., MADRAS.

Head Office :

43, CHURCHGATE STREET, FORT, BOMBAY.

Branches :

CALCUTTA :: KARACHI :: LAHORE :: RANGOON :: NOVA-GOA.

INCRETONE

A Liquid Endocrine Tonic

with a positive pharmacologic action on the energy liberating mechanism of the body.

G. W. CARNRICK CO.
20 Mt. Pleasant Ave., Newark, N. J., U. S. A.



Increased energy from increased utilization of the foodstuffs.

Consult:

MULLER & PHIPPS (Asia) Ltd.
Nicol Road, Ballard Estate, BOMBAY



TRADE MARK **'WELLCOME'** BRAND
TUBERCULIN P.P.D.
 PURIFIED PROTEIN DERIVATIVE

May be regarded as the active principle of tuberculin
 Constant in composition and potency Potency is equivalent
 to corresponding dilutions of the International Standard
 Tuberculin, the official English standard A precise
 known quantity, by weight, of the effective substance is
 injected 'Wellcome' Tuberculin P.P.D. is stable in the dry
 state Fresh dilutions are quickly and easily prepared by
 addition of the solvent, accompanying each bottle of 'Wellcome'
 Tuberculin P.P.D., to the "dried dilution" immediately
 before use.

'WELLCOME' TUBERCULIN P.P.D., NO. 1 PURIFIED PROTEIN DERIVATIVE
 Containers of dried P.P.D. and Solvent to make
 1 c.c. of 1 in 10,000 solution (10 test doses) Rs. 3-18 each

'WELLCOME' TUBERCULIN P.P.D., NO. 2 PURIFIED PROTEIN DERIVATIVE
 Containers of dried P.P.D. and Solvent to make
 1 c.c. of 1 in 1000 solution (10 test doses) Rs. 3-18 each

'WELLCOME' TUBERCULIN P.P.D., NO. 3 PURIFIED PROTEIN DERIVATIVE
 Containers of dried P.P.D. and Solvent to make
 1 c.c. of 1 in 100 solution (10 test doses) Rs. 3-18 each

Prices in Bombay to the Medical Profession (Liable to fluctuation)
 Subject to Medical Discount

Literature to Medical Men, on request

Prepared at:

THE WELLCOME PHYSIOLOGICAL RESEARCH LABORATORIES
 LANGLEY COURT, BECKENHAM, KENT

Supplied by:



BURROUGHS WELLCOME & CO., LONDON
 (THE WELLCOME FOUNDATION LTD. INCORPORATED IN ENGLAND)
 AND COOK'S BUILDING, HORNBY ROAD, BOMBAY

M 3757 Ex.

COPYRIGHT

ADDRESSES AND ARTICLES

The Widal and the Wassermann Tests

● Dr. S. Balasundaram, Director, Ehrlich Laboratory, Madras

Most of the serum tests depend upon the theory of immunity. Immunity can be defined as the power with which an animal or a human being prevents organisms from multiplying or elaborating poison in the body. So there are two factors in the consideration of immunity:

(1) The human body with its inherent power of resistance.

(2) The invading organisms.

The invading organisms may not be always capable of inflicting disease on man. There are a good number of invading organisms which are practically harmless. They are known as saprophytic organisms. Barring all these, we have got only a limited number of invading organisms pathogenic to man, and infection with these organisms is also dependent upon their virulence, their number, the path of infection and a great deal upon the defence power of the bacteria themselves. Against all these is the susceptibility of the host which itself varies according to the species, race and age. Thus we can see that when organisms invade the human body, several factors come into play and the immunity developed is not always of the same degree or character.

There is a certain amount of natural immunity in each person which can resist the invading organisms. Immunity can also be acquired by various other means. Such an acquired immunity is very often seen in persons who have more or less obtained a lasting immunity as in small-pox, typhoid, etc., after suffering from them once. Acquired immunity may also be produced artificially and there are two such kinds of artificial acquired immunity—active and passive. Active acquired immunity is got by introducing attenuated living organisms over a certain period or injecting dead organisms or bacterial products. Passive artificial acquired immunity is got by injecting the serum of another animal which has been injected with dead or attenuated organisms. In this form of immunity the protected animal's tissues do not take part in defence,

but the immunity is only transferred directly from the other animal's serum.

When organisms enter the body, or for a matter of that, if for the sake of immunity dead or attenuated organisms are injected into the human body, there are certain substances produced in the blood called *Antibodies*. Such antibodies are not only produced against organisms but also against any other agents which are capable of acting like bacteria. Such agents, bacterial or otherwise, which can induce the formation of antibodies are known as *Antigen*. So an immune serum for a particular antigen contains a corresponding antibody. Substances acting as antigen may be also proteins, toxins, tissue cells, red corpuscles and even soluble constituents of animal and vegetable tissues. But it should never be understood that the immunity is dependent on antibodies alone. There are also other substances of equal value in the blood of immune persons such as agglutinins, opsonins, etc. It is enough to know for the purpose of the serum tests that a particular antigen is capable of producing a particular anti-body in an immune serum.

Besides these phenomena, it has been found out that the serum of one animal can cause the destruction of R. B. C. of other animals. Thus for example a rabbit repeatedly injected with R. B. C. of another animal as sheep is strongly hæmolytic for the cells of the latter animal. Wright demonstrated the presence in blood serum of opsonins which are responsible for preparing the bacteria for ingestion by the leucocytes. Similarly when an animal such as a rabbit is injected with small doses of living or dead bacterial cultures its serum acquires the property of clumping the bacilli. This action is known as *agglutinating action*. This property is not only against bacteria, but even R. B. C. also can be clumped by suitable immune serum. There are also other actions of the immune serum like precipitating action which is due to precipitins and allied bodies which are developed in the serum.

The salient points about the theory of immunity are:

(1) The causative organism or substance called the antigen produces a specific antibody in the human blood.

(2) Besides the antibody there are several other substances developed like opsonins, agglutinins and precipitins, etc., which play their own part.

(3) The production of such substances in the sera of patients infected with specific organisms of disease is taken advantage of by the bacteriologist to diagnose diseases or to

identify particular organisms as causative agents of particular diseases.

Agglutination Test:—There are two ways of doing this test: macroscopic and microscopic. The former is the more reliable. The Dreyer's method is the most commonly used. Agglutination tubes of uniform length and diameter are set in rows in a stand and, say, if the agglutination is to be done for bacillus typhosis five or six tubes are used and the last of the series is set apart for the control. The particular volume of normal saline is measured out by a pipette in each of the tubes. For the last tube, i.e., the control tube, an equal volume of bacterial emulsion is added to saline mixed up well. No serum is added to this control tube. This is only intended as a check to find out whether there is any spontaneous agglutinability in the bacterial emulsion. In the other tubes, dilutions of the serum are put up in various gradations such as 1/10, 1/20, 1/100, etc., up to nearly 1/200. An equal volume of the bacterial emulsion is added in each of the tubes and mixed well. The dilutions of the serum are doubled in strength by this addition. Thus a 1/10 dilution becomes 1/20, 1/20 to 1/40 and so on. The whole set of tubes is kept in a water-bath at 55°C for about 2 hours or an incubator for 24 hours. At the end of this period, if there is agglutination, we can find all the bacteria in the tubes containing the serum clumped together at the bottom of the tubes leaving the supernatant fluid quite clear. It will be very well marked, when compared with the control tube, since the control tube will be uniformly whitish on account of the bacterial emulsion which remains so from the beginning to the end. This test when applied to investigate infection with typhoid group of patients is known as the *Widal Test*. Agglutination reaction can be done for many other diseases and against many other bacteria such as bacillus melitensis, bacillus coli and other infections.

Interpretation of the widal result is not often easy. Positive agglutination is generally indicative of infection with the specific organism. But there are a number of things to be remembered with regard to such an interpretation.

(1) The widal test depends chiefly on the production of agglutinins in the patient's serum but such agglutinins develop only in the second week of typhoid or enteric fever. Widal tests done on sera taken from patients in the first week of fever does not exclude typhoid.

(2) In fulminating infections where the patient is going to die or his resistance to the invading organisms is at a low ebb, the production of agglutinins may not be enough to show a definitely positive Widal. In such cases the Widal results may be even negative. So in cases where the clinical findings are definite and the patient's condition is bad Widal results are not of value as excluding the diagnosis of typhoid.

(3) Positive Widal may be found in the sera of the patients who have just recovered from typhoid or in persons who have been inoculated against typhoid. This possibility should be borne in mind by the physician who treats patients belonging to institutions where inoculation against typhoid is a routine. Such a thing is very common in military practice where soldiers are inoculated periodically. In such patients Widal results can be taken as positive only if two or three consecutive tests are done at intervals of two or three days each and if the result is positive every time at a higher dilution than in the previous test.

Thus with the limitations I have mentioned the widal result can be interpreted as follows:—

(1) A positive widal in a dilution of more than 1/60 or 1/80 is definitely indicative of typhoid in uninoculated individuals.

(2) In inoculated individuals two or three positive Widal's should be noted each time rising up to higher dilutions than in the previous tests.

(3) A negative Widal, although excludes the possibility of typhoid generally, is not definitely so in the face of overwhelming clinical evidence.

Agglutination properties are also used in the identification of certain organisms by putting up emulsions of organisms against dilutions of a known titre of a known serum. A slight modification of the agglutination test is made in what is known as the absorption test. In this the serum to be absorbed is diluted to 1/25. Complete removal of the agglutinins for the absorbing bacterial emulsions is to be aimed at. Equal quantities of the emulsion and the diluted serum are mixed together, which makes the dilution incidentally and left at room temperature for about 2 hours and in an incubator for about an hour. The tubes can be centrifuged and the supernatant fluid pipetted off. The agglutination power of the serum on the organisms on which the serum was prepared can be tested. If the tested organism is identical with the organism with which the serum was prepared the supernatant fluid will no longer agglutinate it or only slightly. This absorption test is hence

useful to find out whether a specific organism is really the causative agent.

The Wassermann Test.—This is a delicate serum test for syphilis. The test depends on the theory of complement fixation. There are two systems at work in this test: (1) The haemolytic system. (2) A system of antigen amboceptor and complement. It has been found out that rabbit's serum sensitised to sheep's R.B.C. by repeated injections of sheep's R.B.C. into the rabbit, is able to haemolyse the sheep's R.B.C. in the presence of complement. This is the haemolytic system.

Sensitised rabbit's serum (amboceptor) + complement + sheep's R.B.C. result in haemolysis of the R.B.C., i.e., destruction of sheep's R.B.C. The other system is as follows:

Syphilitic antigen + complement + antibody (syphilitic) result in the destruction of the syphilitic antigen. In both the cases the complement is a primary factor as the reactions take place only in the presence of this. In the Wassermann test both the systems are made to work simultaneously and the fixation of the complement to one of the systems is noted. In the test proper the following things are used: (1) Rabbit's serum sensitised to sheep's R.B.C. known as the amboceptor. (2) A suspension of washed sheep's R.B.C. (3) Guinea pig's serum as the complement. (4) Syphilitic antigen about which I will discuss later. (5) Syphilitic antibody the presence of which is doubtful and is to be investigated in the blood serum of the patient for whom the test is done. From the above we can see four things are known factors and only the fifth has to be found out. Supposing the syphilitic antibody is absent in the blood serum sent, then what happens is, the syphilitic antigen is unable even in the presence of complement to complete the system. But the other system is quite complete inasmuch as the amboceptor in the presence of the complement can combine with the sheep's R.B.C. to haemolyse it and so lysis of the R.B.C. is complete. If the syphilitic antibody on the other hand is present in the human serum, then it will be shown that there is no complement left to complete the haemolytic system. So there is no haemolysis in this case. Thus we can see that when the two systems are made to act together with the human serum the complement gets fixed preferably with the syphilitic antibody only when it gets fixed to the haemolytic system. So when there is haemolysis of the sheep's R.B.C. in the test we have to conclude that the complement has completed the haemolytic system and that there is no anti-syphilitic body in the human

serum tested. The blood is then declared negative for syphilis. Similarly if there is no haemolysis it means the complement has been fixed by the syphilitic antibody in the serum and so no complement was left to complete the haemolytic system and hence no lysis means syphilitic antibody is present in the serum and that the blood is positive for syphilis.

Complement.—This is only serum separated from the blood collected by bleeding three or four guinea pigs. All the samples collected are pooled together and kept overnight and serum allowed to separate by itself. The serum is removed, centrifuged for five minutes and the clear portion is kept in the ice sheet till it is required. Some workers prefer the serum from guinea pig's blood a day previous to the test while others prefer bleeding the same, say, a few hours before the test.

Antigen.—In the first tests done by the original discoverers of this test they used alcoholic extract of syphilitic liver of children who died of syphilis. But later on, other investigators were able to prove that even an alcoholic extract of any heart muscle, preferably the bullock's heart, exactly acted in the same way as syphilitic antigen for the purpose of the test. Then there are others who modified this by cholestrinising such a heart extract which they said acted much better than the plain heart extract. Thus, now, for antigen we have to use a 10% alcoholic extract of bullock's heart to which a 1% alcoholic solution of cholestrin is added. The heart extract is prepared by grinding fresh heart muscle of a bullock with the required quantity of alcohol. Cholestrin solution and bullock's heart extract are kept in separate bottles. A 1 in 15 dilution of the mixture of heart muscle and cholestrin in the proportion of 3:2 in normal saline is made just before the test which serves as antigen.

Sensitised suspension of washed sheep cells.—This is made in a solution of amboceptor itself. The amboceptor is obtained by getting the serum of a rabbit which has been given four or five intravenous injections of washed red cells of a sheep. This serum heated to destroy the complement and preserved in ice chest will be useful for many tests. This amboceptor is standardised and its haemolytic titre is determined. On the day of the test a solution of this amboceptor is prepared which is five times the minimum haemolytic dose, or 5 M. H. D. as it is usually expressed, and a suspension of washed sheep's corpuscles is made in this solution itself. The strength of the suspension will be about 3%. Washed sheep

corpuscles can be got by collecting blood from a sheep from the slaughter-house fresh or bleeding a sheep from the jugular vein into a receptacle containing sodium citrate to prevent clotting. The corpuscles can be washed in normal saline by centrifugalising 3 or 4 times the citrated blood with fresh quantities of saline. The normal saline is a 85% strength which is used throughout the test.

The patient's serum sent for examination is heated up to 55°C to destroy the complement present in it at for about half an hour. Thus all the reagents are got ready for the test on the test day and then standardisation of these reagents are made. Some reagents can be standardised and kept ready for the test, for example, the amboceptor need not be standardised long before the test. It is enough an amboceptor is kept standardised soon after preparation. Such a standardisation is made by making a number of dilutions of the rabbit serum and titrated with an old quantity of complement, say 1 in 10 or 1 in 20. The dilutions of the amboceptor may be carried up to even 1 in 10,000. This combination of diluted amboceptor with complement is incubated for half an hour at 37°C in a water bath. At the end of that period a 3% suspension of sheep's R. B. C. in normal saline is added and again the whole thing is incubated for about another half an hour. Readings are taken and the tube containing the highest dilution of amboceptor in which there is complete hæmolysis is noted. This is the minimum hæmolytic dose and five times this dose is used for the test proper.

Complement titration.—This has to be done usually on the day of the test because the complement obtained from the guinea pigs for each test may vary in its strength. This titration is also carried out simultaneously with and without the presence of antigen. Two sets of tubes are put up in a rack. In one set dilutions of the complement, say from 1 in 10 up to 1 in 80 or 60, are put up with plain normal saline in equal parts. In the other set the same dilutions of the complements are put up with equal parts of cholestrinised antigen (preparation as mentioned before). The whole rack is kept in the incubator water bath at 37°C for half an hour. At the end of this period the 3% suspension of sheep's R. B. C. in amboceptor solution of 5 M. H. D. is added to each of the tubes in each set. Incubation at 37°C for half an hour will result in lysis in some of the tubes of each set. The dilution up to which lysis has taken place in each set is taken into consideration and a mean dilution between

the two, *i.e.*, dilution with the antigen and dilution without the antigen is taken and used for the test proper. This mean dilution is the strength of the complement to be used for the test that day. Thus we can see a good deal of preparation and standardisation and titration of the reagents for the test proper is very necessary before the actual test can be done.

The test proper.—Sets of 4 tubes for each blood are put up in a rack out of which the first tube of each set is intended for the control. The following reagents are put up in each tube of each set:

- | | | |
|-----|------------------------------------|--------------------------------|
| (1) | 1 vol. of 1 in 5 dilution of serum | 1 vol. of complement (3 doses) |
| 1 | " " normal saline | " " |
| (2) | 1 " " 1 in 5 dilution of serum | 1 vol. of complement (3 doses) |
| 1 | " " antigen | " " |
| (3) | 1 " " 1 in 5 dilution of serum | 1 vol. of complement (5 doses) |
| 1 | " " of antigen | " " |
| (4) | 1 " " 1 in 5 dilution of serum | 1 vol. of complement (8 doses) |
| 1 | " " antigen | " " |

The first tube instead of the antigen contains normal saline, and so in that tube the hæmolytic system is bound to work and hence lysis will certainly occur as there is no antigen for the syphilitic system to fix the complement. So the first tube provides the control for finding out whether the reagents work well. The three other tubes contain varying doses of complement just to find out for us the antibody present in the human serum. If a large amount of syphilitic antibody is present in the human serum then hæmolysis will not occur even in the last tube containing the highest dose of complement and hence we can get an idea about the positive nature of the blood for syphilis. Such sets of four tubes for each blood all put up in a single rack are kept together in a water bath at 37°C for half an hour. Simultaneously with this in another water bath or in the same water bath a 3% suspension of sheep cells in an amboceptor solution of 5 M. H. D. strength is incubated for half an hour at 37°C. At the end of this period, one volume of this sheep cell suspension is added to each of the tubes in each set for each blood. The whole thing is again incubated for about 15 or 20 minutes till all the tubes get lysed. Readings can be taken roughly now and the rack can be changed to a water bath containing cold water or ice water. The final readings are preferably taken next morning or after a few hours.

If there is no hæmolysis in the three tubes by the side of the control which should show hæmolysis, then blood is positive strongly for syphilis *i.e.*, it can be called three plus. If only two tubes show no hæmolysis then it is two plus.

(Continued at foot of next page)

Post Partum Haemorrhage

● Dr. Miss L. Bhuyan, Gauhati

Normal labour is associated with slight bleeding from the placental site or as a result of lacerations of the cervix, vagina or perineum. The amount varies greatly in different cases. A greater flow suggests the possibility of an injury which requires prompt investigation. It is necessary to determine the source of bleeding and this is possible only by systematic examination, keeping in mind the possible sources of haemorrhage.

Post-partum haemorrhage is a serious bleeding from any part of the genital tract following the completion of the third stage of labour. This complication may be due to mismanagement of the third stage, when it is neglected or not discovered until an excessive amount of blood has been lost. It demands prompt and thorough treatment.

AETIOLOGY

Post-partum haemorrhage before the birth of the placenta is due to partially or completely

(Continued from previous page)

If only one it is one plus. Two plus and three plus reactions are strongly positive for syphilis. Slight hæmolysis in first tube is plus-minus.

Interpretation of results. (1) A reaction of one plus or plus-minus in a case which has not been previously diagnosed as syphilis is of no diagnostic value.

(2) In a previously diagnosed and treated case such a reaction is an indication for further treatment.

(3) In clinically clear cases of syphilis a negative one plus or plus-minus reaction should be taken as an indication for another examination to be done after a provocative injection of one of the arsenical preparations.

(4) A two plus or a three plus reaction is definitely positive for syphilis. But it is open to the fallacy that it may also be present in some of the chronic diseases where syphilis may be co-existent.

Kahn's test depends on the flocculation of globulins by addition of Kahn's antigen which is more delicate and reliable in treated cases of syphilis and is now popular. Any way a positive reaction in both the tests done simultaneously is of very great value in the diagnosis of syphilis. The technic of Kahn's test is very simple.

separated placenta but which is not expelled owing to uterine inertia with weak irregular contraction, and lack of normal retraction or due to adhesions between the placenta and the uterus.

Haemorrhage from the uterus immediately after the birth of the placenta is the result of absence or diminution of the contraction and retraction of the uterus which normally follow the expulsion of its contents, thereby reducing the flow of blood through the uterine wall and consequently from the opened sinuses in the placental area.

Predisposing causes of post-partum haemorrhage, therefore, are all conditions which lead to uterine inertia or atony. It may occur after prolonged, difficult or rapid labour; overdistension of the uterus from multiple pregnancy; hydramnion; abnormally large foetus; placenta prævia; or prolonged and deep anaesthesia. It is more apt to occur in multipara who have had several confinements in a short period of time. Certain constitutional conditions also favour haemorrhage as anaemia, debility, heart and kidney diseases, tuberculosis, and obesity. Bleeding is more profuse if tumours such as fibroid co-exist. In a very large pelvis, the uterus does not receive the normal pressure when it settles into the pelvis and thus bleeding may occur. Severe haemorrhage may also follow the retention of a part of the placenta, membrane or blood clot.

DIAGNOSIS

Every patient should be watched closely for signs of abnormal bleeding for several hours after delivery. In some cases bleeding takes place slowly; in others it is profuse and escapes in gushes. The patient's condition usually suggests the loss of blood. The pulse is weak and rapid. The skin is pale and may become waxy in extreme cases. The respiration is hurried and shallow. She may complain of faintness and blurring of vision. The presence of these symptoms should suggest haemorrhage even though there has been very little escape of blood since large amount may accumulate in the uterus and the vagina.

The body of the uterus may be above the level of the umbilicus. In severe cases of haemorrhage it may fill most of the abdomen. The uterine wall may be so soft that it cannot be outlined though some degree of contraction may follow the stimulation of palpation.

When the bleeding occurs in the presence of good uterine contraction and retraction, it is probable that the blood comes from the lower

uterine segment which has not undergone retraction and which has been torn or which has been the site of a placenta praevia.

The bleeding from the uterine cavity must be differentiated from that due to lacerations of cervix, vagina and perineum or from a new growth, varicose vein or ruptured hematoma. In these conditions the uterus does not lose its muscular tone and function. But the exact source of the bleeding cannot be determined until after careful examination of the genital tract is made.

PROGNOSIS

The seriousness of the haemorrhage in each case must be judged by the patient's condition. A healthy woman stands haemorrhage comparatively well and may lose several pints without risk of death provided the loss is not too rapid. Previous state of health of the patient is an important factor; those who are already weakened from previous anaemia, or exhausting labour cannot stand the loss of much blood. The resulting anaemia increases the risk of sepsis and when death does not occur, the patient may remain weakened for many months.

TREATMENT

The prophylactic treatment of post-partum haemorrhage is a matter of great importance. If there is a history of post-partum haemorrhage in previous labours, calcium lactate in 30 grs. doses should be given every other day during the last month of pregnancy.

Since the uterine inertia is the most important factor in post-partum haemorrhage, the various causes of inertia must be prevented. For the last few years many physicians have advocated the daily use of small quantities of quinine during the last weeks of pregnancy to decrease the dangers and difficulties of the labour. According to Prof. Green Armytage, quinine lessens the duration of labour if given during the last 4 to 6 weeks of pregnancy and it is a great benefit to patients whose general musculature is poor and abdominal, uterine and cardiac muscles are flabby, as this raises the contractability and retractability of the uterine muscle and thus lessen the risk of post-partum haemorrhage.

According to Ganuer "the first and second stages of labour are accelerated without causing any harm to mother or child" if quinine is administered to pregnant women.

Bradbrooke's experience is that "the treatment with quinine ensures a definite decrease in the average duration of labour". He points out the following advantages: (1) The dilatation period of labour is short and much less

painful. (2) In the third stage there is remarkably little haemorrhage. (3) The confinement runs a very easy course.

Linton Smith advised $1\frac{1}{2}$ grs. of quinine bihydrochloride, three times a day, beginning only three weeks before the expected confinement.

There are really no contradictions to quinine. Every doctor knows that $1\frac{1}{2}$ grs. of quinine sulphate or hydrochloride three times a day, taken daily for three weeks is quite harmless. The very rare idiosyncrasy to quinine is, when present, evidenced at once and then one can stop the administration. It is not yet possible to explain pharmacologically the action of quinine in this respect. According to Smith we must look upon quinine "as a tonic, hence as a substance which increases the tonus of the muscle fibres. This tonic action can be secured by the administration of small doses: larger doses may well have the opposite effect."

Post-partum haemorrhage is usually due to improper management of the third stage of labour. At the end of the second stage a hand should be kept on the abdominal wall over the fundus until the placenta is delivered. Early forcible compression of the uterus for the purpose of hurrying the expression of the placenta is a bad practice. The placenta should be expressed from the lower uterine segment by squeezing it out of the uterus as soon as the separation is complete. The hand over the fundus is able to detect the changes which occur when the placenta has separated. One of the important signs is that the uterus rises up to the level of the umbilicus and remain rather firmly contracted. Pressure must not be made on the uterus while it is flabby for fear of inverting it. If the uterus is abnormally soft after the completion of the third stage, 1 c. c. pituitary extract should be injected. The condition of the uterus needs special attention particularly after the birth of twins as well as hydramnios, concealed haemorrhage and placenta praevia. The placenta should be carefully examined directly after its expulsion and if any portion is left behind, its immediate removal is indicated. The patient should be surgically prepared before this attempt is made.

When haemorrhage has already set in, the treatment varies according as the placenta is still within the uterus or has already been expelled. In the former case, the uterus should be at once grasped through the abdominal wall and firmly squeezed. If firm contractions come on, this will be sufficient; but if the haemorrhage continues and the uterus relaxes

Eliminating the inconvenience of Mandelic Acid Therapy IN THE TREATMENT OF URINARY INFECTIONS

AMMOKET ★ NEOKET

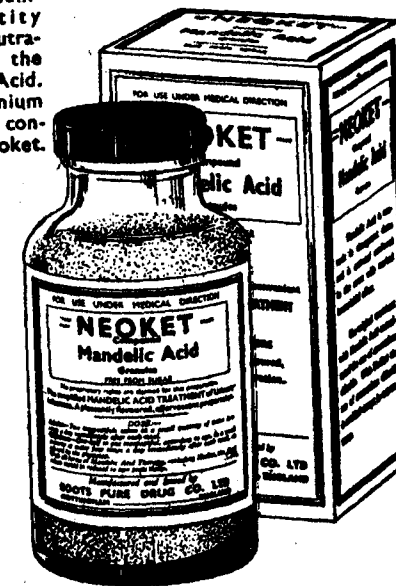
ELIXIR OF AMMONIUM MANDELATE

Ammoket is an elixir in which the unpleasant taste of ammonium mandelate is covered by means of suitable flavouring agents. It may be taken by adults and children, and is recommended as a convenient way of administering mandelic acid. Ammoket does not cause alimentary upset, and the majority of cases with urinary infection will be found to respond to treatment with it, and will not require additional administration of ammonium chloride.



COMPOUND MANDELIC ACID GRANULES

As a result of a large amount of experimental work on the most convenient way of presenting Mandelic Acid, Boots Pure Drug Co. Ltd. has produced Neoket. Neoket consists of pleasantly flavoured, effervescent granules containing Mandelic Acid and sodium acid phosphate, suitably sweetened with saccharin, and sodium bicarbonate is present in sufficient quantity to effect neutralisation of the Mandelic Acid. No ammonium chloride is contained in Neoket.



Boots
PRODUCTS

MANUFACTURED BY
BOOTS PURE DRUG CO. LTD.
NOTTINGHAM ENGLAND

GLUCOSE A.D.

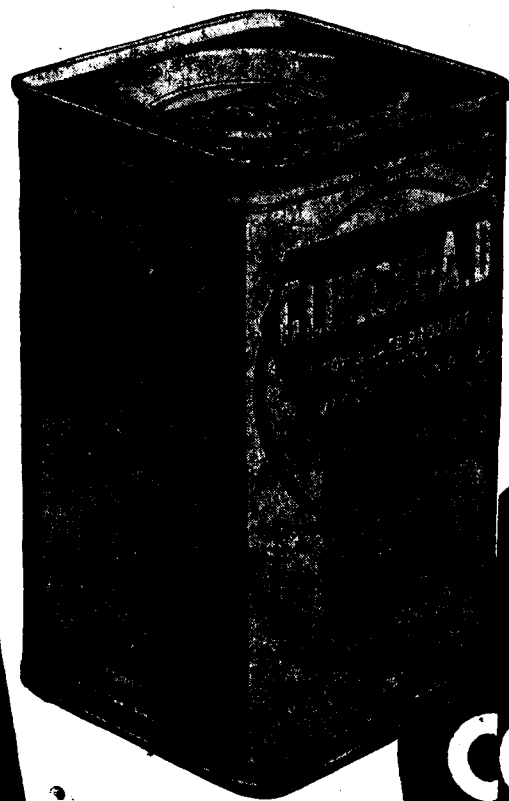
Contains
BOTH VITAMINS

A new and improved Glucose containing:

International Vitamin A units per pound - - - 6,000
International Vitamin D units per pound - - - 2,000

Glucose A.D. is pure medicinal Glucose with calcium glycerophosphate and vitamins A and D derived from a natural source. It is entirely free from artificial vitamins.

Glucose is particularly indicated in the vomiting and bilious sickness of children, acidosis, malnutrition and debility. Owing to its rapid assimilation the energy and nourishment provided in Glucose A.D. are immediately available.



Agents for India:
CARR & CO. LTD., Witter Road, Ballard Estate,
Bombay; and at Calcutta, Karachi, Madras and
Barmagora.

A
COW & GATE
PRODUCT

as soon as the squeezing is stopped, the placenta should be expressed. If this fails and the patient's condition is alarming, manual removal of placenta becomes necessary. Haemorrhage which continues after the delivery of the placenta and the administration of pituitary extract is usually due to retained placental tissue and lacerations of soft parts. Tears if any should be located and carefully sutured. If a cotyledon of the placenta is retained, the genitals should again be cleansed with an antiseptic solution and freshly gloved hand should be carefully introduced into the uterus to seek for and remove the remaining placental tissue. The hand should not be withdrawn rapidly but gradually during a contraction.

If haemorrhage is due to atony, the uterus should be vigorously massaged, while pituitary extract and ergot should be given to increase the strength of the contractions. If these fail, an intra-uterine douche at a temperature of 118°F may be given. According to Davis, most authorities now favour the uterine pack with sterile gauze when the atony cannot be controlled with the above drugs. Davis moistens the first part of the pack with a weak mercurochrome solution, believing that this will lessen the risk of infection, since the antiseptic will reduce the possibility of the blood in the pack acting as culture media.

If, for any reason, plugging cannot be resorted to, the only alternative is bimanual compression of the uterus. In desperate cases, as a temporary measure, manual compression of the abdominal aorta may be necessary.

Strict asepsis must be observed in every intra-uterine manipulation to check post partum haemorrhage. In desperate attempts to check the bleeding, the natural tendency of the obstetrician is to forget the risk of infection.

After the actual haemorrhage has been checked, attention should be given to improving the general condition of the patient. When the shock is not profound and the pulse is not particularly rapid, elevation of the foot of the bed, wrapping up the patient in warm blanket and application of hot water bottles to the extremities will be all that is needed. When the patient is profoundly shocked, sterile normal salt solution should be administered intravenously or subcutaneously.

These patients run a longer convalescent stage. The blood and general condition of the patient should be built up through medical and dietetic measures. Even when the asepsis is

A Plea for a more extended use of Oxygen Therapy *

Dr. Guha

Oxygen remained unrecognised for a long time. Only a century and a half ago it was discovered and its relation with air known. It was subsequently established that the oxygen portion of the air is required for all common combustion and for the support of all forms of life. The importance of its very wide use in industrial operations for the production of high temperature is not inconsiderable. But its use in medicine is but of recent origin. It is generally administered during the last stage of a dying patient, just as the Kavirajas prescribe "Ganges Water" as the last resource. It is highly deplorable that a mistaken notion should even now exist that the only use of oxygen as a part of medical treatment is to help the gasping and dying patient.

THERAPEUTICS OF OXYGEN

It is a well-known fact that hæmoglobin is the carrier of oxygen. It forms oxyhæmoglobin in loose combination with oxygen. It gives up the oxygen very easily for the substance of the cells of the different parts of the body and to oxidise the accumulated cell debris. But when the normal work of the body is hindered, and the tendency of the formation of acetone and alcoholic substances in the system is accentuated, or the substances like anti-febrin or quinine enter into the blood, methæmoglobin is formed to a certain extent. Methæmohaemoglobin does not part with its oxygen so easily as oxyhæmoglobin does. The former seems to be in a stable combination with oxygen. Consequently the portion of the inhaled oxygen which go to form the methæmoglobin is not utilised for the metabolic processes in the body, and the system thus comes to require more oxygen to keep up

* A Lecture delivered at the A. I. M. I. A. Conference, Gauhati, during Dec. 1938.

as rigid as possible, these patients may show some evidence of puerperal infection.

REFERENCES

1. Midwifery by Carl Henry Davis.
2. " " " Ten Teachers.
3. " " " Green Armytage.
4. " " " Kedarnath Das.
5. Ph. J. Ganner: *B.M.J.*, 3rd August, 1935, P. 397.
6. H. N. Bradbrooke: Oxford Thesis, 1935.
7. Linton Smith: *Jr. Med. Assn., Georgia*, July 1936 P. 247.

the optimum metabolism of the body tissues and their cells. The need for oxygen arises even at an early stage of the disease. If this condition of deficient supply of oxygen continues, the individual cells and the tissues composed of them suffer to a greater or lesser extent from the effect of malnutrition. Viewing the problem of treatment of any disease from this standpoint one would feel inclined to consider early use of oxygen in the treatment of diseases far more desirable and reasonable than its use in the very last stages of a dying patient.

THE USE OF OXYGEN IN DIFFERENT DISEASES

The necessity of using oxygen at an early stage of different diseases may now be briefly discussed.

Continued fevers:—Whatever may be the cause of the fever there is no denying the fact that the fever if continuous and prolonged requires a plentiful supply of oxygen to dispose off morbid matters and their toxins. If the supply of oxygen is not sufficient, the cells get exhausted, lose their integrity, and finally dissemble. The effect of cell-exhaustion is subsequently expressed in the shape of complications. I do not minimise the importance of other provisions that are also necessary in the treatment of prolonged fevers. What I want to impress is that the action of drugs may become several times more effective if they are supplemented by the use of oxygen.

Thus for example in typhoid fever, the use of oxygen is two-fold. During the period when the high temperature continues, the quantity of toxin secreted by the typhoid bacilli is very great. The cells cannot cope with them and soon get extremely exhausted if outside help is not readily rendered to them. When the fever continues for too long a period (6 or 7 weeks) the organs of the body become so very weak that all artificial help to revive them to normal activity proves futile, and in many cases the patient dies of heart-failure. If oxygen is given to the patient at regular intervals from the very beginning, it will directly help the process of detoxication and secondly the organs, specially of the respiratory and the circulating systems, will get sufficient support to restore their lost strength. They will be less exhausted as they will have to strive less for the required amount of oxygen at this period. They will thus be able to fight the disease for a longer period without being exhausted.

I have devised a novel method of introducing oxygen, enwrapped in a suitable vehicle, directly to the seat of typhoid bacilli in a case

of enteric fever. The vehicle I have preferred to use is mucilage of cydonia vulgaris or that of plantago ovata. The chemical composition of these substances is such that it is not liable to ferment like starch, and can be easily sterilised and kept in air for quite a long period without showing any tendency to ferment. These mucilages are nitrogenous bodies, acid in reaction and mildly astringent in character. Taken in a moderate quantity they do not irritate the stomach and pass undigested into the duodenum. The mucilage can retain the fine bubbles of oxygen when it is sprayed into it. This oxygen-sprayed or oxygenated mucilage may be given to the patient. In its passage down the small intestines it comes in direct contact with typhoid ulcers, and thus acts not only as emollients, but also help the intestinal cells to combat the offending bacilli by virtue of the oxygen contained in the mucilage. I have administered the oxygenated mucilage of cydonia vulgaris in several badly affected typhoid cases with fair success.

Other diseases where early oxygen therapy is indicated are: (1) pneumonia, (2) bronchitis, (3) phthisis, (4) asthma, (5) cardiac diseases, (6) fatigue and general exhaustion due to any cause.

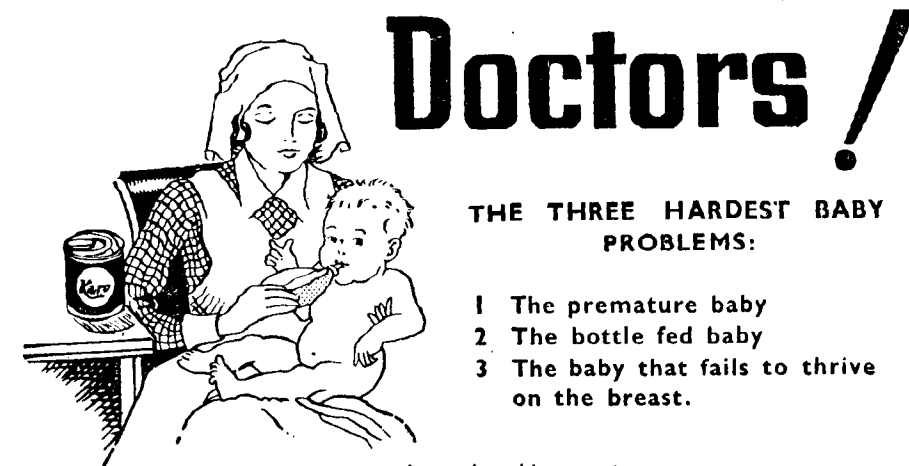
During the period of a disease the lungs are usually overworked. The lungs so enfeebled cannot draw as much oxygen as the system requires, and thus the whole body suffers from the effects of this deficiency. Hence the advisability of using oxygen at an early stage of the disease at suitable intervals.

CONCLUSION

The reasons for the present limited use of oxygen therapy are obviously (1) heavy cost (2) it is not easily available to the general practitioners (3) massive nature of the oxygen cylinders which makes them not easily portable. Treatment with oxygen therefore did not find favour with the physicians and the experiments with oxygen in the treatment of different diseases could not be carried beyond the limits of big institutions. If oxygen can be rendered readily available everywhere at a nominal cost the sphere of its application in the treatment of diseases will soon extend beyond all our hesitating calculations.

ADDENDUM

I am glad to find in the exhibition pandal a novel contrivance with which oxygen can be generated at a moment's call. The price of the apparatus is, I am told, about Rs. 83-8-0 and the cost of production of a day's average requirement of a patient is only a few annas.



Doctors!

THE THREE HARDEST BABY PROBLEMS:

- 1 The premature baby
- 2 The bottle fed baby
- 3 The baby that fails to thrive on the breast.

In every case the real problem is the same

How to find a food on which the baby WILL REALLY THRIVE ?

When added to the baby's milk—and—water mixture in place of ordinary sugar, karo makes it, for all practical purposes, EXACTLY THE SAME AS MOTHER'S MILK.

KARO has been adopted with great success by hundreds of doctors and nurses abroad, and in several instances it was found that babies thrive better on karo—and—milk than they had on breast milk.

EXCELLENT FOR GROWING CHILDREN TOO. Dr. Dafoe uses KARO in the diet of the DIONNE QUINTUPLETS.

THE SOLUTION LIES IN KARO SYRUP

Dextrin		37.1 %
Maltose		22.2
Dextrose		7.5
Sucrose		
(partly Inverted)		7.1
Protein		0.2
Ash		0.6
Water		25.3

Karo

"Rich in Dextrose"

For literature and other particulars, please write to:—

CORN PRODUCTS Co. (India), LTD.
BOMBAY P. O. B. 994. CALCUTTA P. O. B. 2191.



Available in 1½ lb. and 3 lb. tins at an extremely economical price.

FELLOWS'

COMPOUND SYRUP

contains essential minerals: Iron, Sodium, Calcium, Potassium, Manganese and Phosphorus. A dependable formula prescribed with satisfaction for over 60 years. "FELLOWS" is a reliable product, manufactured under strict supervision and—with a consistency of quality that only the greatest care in manufacture can ensure.

Samples on Request

Fellows Medical Mfg. Co., Inc.
26 Christopher Street New York, N. Y.

In contrast to its very low toxicity for skin and mucous membranes its effect on the bacteria with which we are concerned in puerperal fever is high. Streptococcus pyogenes and B. coli, even in the presence of pus, are killed within two minutes by a two per cent solution.



JOURNAL OF OBSTETRICS
AND GYNÆCOLOGY OF
THE BRITISH EMPIRE
Vol. 40, No. 6, 1933

DETTOL - - - proved efficiency

Streptococcus pyogenes and B. coli killed in 2 minutes in a 2 per cent solution. Stable in presence of pus, blood and similar organic matter.

Non-poisonous. Non-staining.
Persistently antiseptic. Pleasant aroma
Miscible with water in all proportions.

ATLANTIS (East) LIMITED,
(DEPT P. 6)
20/1, Chetla Road : : CALCUTTA

Marketing Agents for Reckitt & Sons
Hull and London, England

'DETTOL'

THE MODERN ANTISEPTIC

Distributing Agents:—GRAHAMS TRADING CO., (India) LTD., DEPT. P. 6.

P.O. BOX 30
KARACHI

P.O. BOX 90
BOMBAY

P.O. BOX 150
RANGOON

PARRY & CO., LTD., DEPT. P. 6, P.O. BOX 12, MADRAS.

E. B. CREASY & CO., LTD., DEPT. P. 6, P.O. BOX 37, COLOMBO.

Treatment of Corneal Ulcer

● Dr. K. Krishnamurti, Eye Specialist,
Chodavaram

It is well known and recognised that corneal ulcer is one of the most common lesions that may lead to blindness, and this article, not intended to be exhaustive or elaborate, would deal only with some of the important aspects of treatment of a corneal ulcer based on experience at my clinic.

The treatment of a corneal ulcer is divided into two parts: (1) general treatment. (2) local treatment for simple and complicated ulcers.

GENERAL TREATMENT

Rest.—This should be strictly observed till the healing of the ulcer takes place. The patient should almost stick up to bed. No glare of the sun or light should fall on the eyes. Fresh air is imperative.

Diet.—Easily digestible and nourishing diet should be secured. All condiments are avoided. Plenty of fruits, such as apples and citrous fruits, are allowed. If he is under-nourished and deficient in vitamin A, foods containing vitamin A or vitamin A preparations should be given.

Drugs.—To start with, it is better to have always a good purgative: calomel 2 grs. at bed time and mag. sulph. on the next morning.

Salicylates and aspirin are given when there is acute pain. Bromides, specially of potassium, are given when the patient complains of sleeplessness.

Cod-liver oil, syrup ferri iodide and other general tonics are given when the general condition is below par.

Injection.—Out of all the injections, I have found sterilised milk, given intramuscularly, very useful. After all, this is cheap and can easily be prepared. Fresh cow's milk is taken, boiled and cooled. Then cream is taken out of it by filtering. The dose varies from 3 c. c. to 10 c. c. Milk is indicated specially when there is pus in the anterior chamber.

Chemotherapy may be tried in persistent ulcers when other drugs fail. In my experience, I have found prontosil to be very useful among the chemotherapeutic drugs. But, I confess, I had not much experience except in a few cases where I have tried other drugs along with this treatment.

Anti-pneumococcic serum 10 c. c. is given in ulcers of pneumococcal origin but the results are not very satisfactory.

Anti-gonococcic serum has been tried but with no success.

Gonococcic vaccine is given with better results in cases where the condition of the ulcer has become sub-acute.

LOCAL TREATMENT

Simple or uncomplicated ulcers.—Heat, cleanliness, rest and protection are the fundamental principles of treating a corneal ulcer.

Cleanliness is observed by washing the eye frequently with mild antiseptic lotions such as normal saline or boric. The lotion should be as hot as can be borne by the patient.

Heat is employed to prevent stasis and encourage repair. This is obtained by frequent boric fomentations.

Local rest is obtained by putting atropine 1% either in the form of drops or ointment.

Protection from light, glare and dust, etc., is procured by the use of bandage.

To sum up, the treatment of a simple ulcer comprises in frequent washing of the eyes with mild antiseptic lotions, boric fomentations, atropine and tight bandage.

COMPLICATED ULCERS

In these cases the primary factor should be looked into.

If there is foreign body it should be removed.

If there is a tumour of the lid causing injury to the cornea, it should be excised.

If there is trichiasis or entropion, epilation, electrolysis or Webster's operations should be undertaken.

If there is bacterial conjunctivitis along with the ulcer, the conjunctivitis should also be treated along with the local treatment.

If trachoma is the primary factor, the lids should be touched with silver nitrate 2%, and washed with mild antiseptic lotions. Frequent mag. sulph. and perchloride baths are found to be useful. $\frac{1}{2}$ % perchloride of mercury ointment (antitrachomatous ointment) is often applied on every alternate days. At bed time a mild boric ointment or protargol ointment is applied.

I have been trying Lacmin, an Italian preparation prepared under the State control. It is a local vaccine, composed of numerous strains of ocular bacteriogens gathered from the flora of all the varieties of trachoma and infections of the eye. The results seem to be encouraging.

I have been trying yatrien 105 with casein. Here also the results seem to be encouraging.

If the corneal ulcer is due to pneumococci I have used optochin ointment 1 to 2% with very good results.

Anti-pneumococcal serum is also tried.

If the ulcer is due to acute conjunctivitis, silver nitrate 2% should be swabbed over the everted lids and washed with saline or boric lotion.

The local treatment of a complicated ulcer comprises of frequent irrigations of the eye with mild lotions, boric fomentations, atropine 1%, rest, bandaging, cauterization, paracentesis and Sæmisch's section.

Cauterization is done either with a galvanic cautery or with a swab of Tr. iodine or carbolic acid or silver nitrate.

Paracentesis is done in cases where the tension of the eye ball has been increased considerably and when there is danger of perforation of the ulcer. In cases of hypopyon, Sæmisch's section offers some advantages. The section consists in completely dividing the ulcer from one end to the other.

TREATMENT OF COMPLICATIONS

Hypopyon.—If perforation occurs the treatment depends upon the size and situation. If it is small or in the pupillary area we need not fear of perforation. Atropine, rest in bed and bandaging form the whole treatment. Blowing of the nose, coughing and similar efforts should be avoided. If there is slight prolapse of the iris, adhesion generally takes place by the above treatment.

If the prolapse is big, cauterization may be tried.

If it is very big the prolapse should be excised, and no attempt should be made to replace the prolapse tissue lest panophthalmitis may result.

Opacities.—These are very common both in the simple as well as in the complicated ulcers.

Yellow oxide of mercury ointment 1 or 2% with or without dionin is found to be very useful. The ointment is applied and massaged gently.

If the opacities are moderate, dionin 2% or normal saline, or 2% sod. iodide are often tried subconjunctively.

Dionin 2% — 2 ms. and increased upto 5 ms.
Normal saline — 15 ms. upto 30 ms.
Sod. iodide 2% — 5 ms. upto 20 to 30 ms.

If the opacities are very thick and cannot be dissolved by any of the above means, optical iridectomy, keratoplasty or tattooing is generally indicated.

Secondary effects of Small-Pox Vaccination

• Dr. Dadhich Singh, Dhampur

With the advent of vaccination, the high rate of mortality in infants on account of small-pox has been minimised to practically nil, and I have never come across a single case who in spite of a successful vaccination had such a virulent and extensive eruption as to disfigure him.

While appreciating the high prophylactic value of vaccination against small-pox, there are so many ailments which spring up as sequelæ jeopardising the health of the infants, sometimes to a fatal termination. Most common of them are: Streptococcal and staphylococcal infections in the form of boils, fruncles, eczema, etc.; bronchitis, broncho-pneumonia, stomatitis, diarrhoea, conjunctivitis, cachexia, etc.

The blood of the infants being peculiarly vulnerable, they very soon develop secondary anaemia also.

Loss of weight and vitality are the chief of the complaints that nearly every parent puts up before his physician. In this stage they are prone to catch different kinds of infection.

These after effects of vaccination are very discouraging and disappointing.

That is probably due to the vaccine being contaminated with different species of bacteria in the course of its preparation. More can be revealed of the causes if the vaccine is put to frequent thorough examination, culture, and other tests.

It is hoped that the authorities will look into this aspect of the matter and save the useful method of vaccination by falling into undeserved disrepute.

DR. H. D. S. SILVER JUBILEE PRIZE

The Bombay Obstetric & Gynaecological Society has selected the following subject for the Thesis for the above prize for 1939—40.

"DISPLACEMENTS OF UTERUS"

The prize is open to all medical persons registered with the Bombay Medical Council and of not more than five years standing. Time to submit the Thesis will be some time in March 1940.

For further particulars write to Hon. Secretaries of the Society, Empire Automobile Building, Queen's Road, Bombay, 4.

THE Indian Medical Journal

All communications regarding contributions, advertisements, books and reports for review, changes of address and non-receipt of the Journal should be addressed to: The Managing Editor, INDIAN MEDICAL JOURNAL, 131, Coral Mahesh Street, Madras. It is important that the subscribers should report their change of address, if any, immediately to this office to ensure regular supply of the Journal.

All communications regarding subscription and remittances of the same should be addressed to Dr. Khan Chand Wohra, Hon. Treasurer, All-India Medical Licentiate's Association, Civil Hospital, Karnal, (Punjab.)

All communications regarding policy, programme and work of the All-India Medical Licentiate's Assn. should be addressed to Dr. Manohar Lal Kapur, General Secretary, M.O., I/C. Eye Centre, King Edward Memorial Hospital, Karnal Post, (Punjab.)

Associate Editors:

A. N. ROY, and JAI GOPAL

Co-Editors:

K. S. S. AIYER, and
T. V. MUTHUSWAMI CHETTIAR

Advisory Committee:

K. B. BHUJANGA RAO, K. VENKAT RAO,
T. V. RANGANATHA RAO, S. BALASUNDARAM
and S. L. ROY

Managing Editor:

A. VISWANATHAN

Vol. 33 | MADRAS: August 1939 | No. 8

Clinical Sense

DESPITE the vagueness of its implications and the difficulty to define it in terms of scientific exactness, there is no doubt that the possession of the gift of clinical sense is of great importance and value to the physician in his daily practice. And this has not diminished a whit in its utility in spite of what we may call mechanisation of medicine achieved through laboratory methods, x-ray and other contrivances in the diagnosis, prognosis and treatment of many a disease.

But we find today, both in the teaching and practice of medicine, clinical sense is left undeveloped while clinical science is given a prominence much beyond its deserts. Instead of a happy and fruitful combination we witness excesses on one side or the other. This growing divorce of the art from the science of medicine and *vice-versa* is neither justified nor justifiable under the present circumstances.

It is therefore opportune that Prof. Ryle of the Cambridge University should have taken

for his oration before the Medical Society of London a theme of such forgotten importance as *Clinical Sense* in relation to *Clinical Science* a summary of which was given in our June issue by our London correspondent.

Prof. Ryle has put the case well and truly, and his conception of *Clinical Sense* is nearest the truth. It is neither a lucky guess work as the scientists would say of it, nor a rare gift of a few individuals as some may imagine. It is a result of "observational ability, observational habit, observational accuracy and a retentive memory for observed phenomena, together with an aptitude for the shifting and co-relation of experience, of a discipline of the special senses, differing only from the discipline and science of the laboratory worker in that the observations have not been set down in orderly protocols but lodged and stored in a busy mind, not tested and improved by measurement and stage experiment but at least amplified and assisted by experience."

The two chief causes that have led to the deterioration of *Clinical Sense* are the futile and rapid multiplication of scientific facts and the wrong perspective and time chosen in the instruction of medical students in these matters. Prof. Ryle does not go so far as to lay the blame solely on the overcrowding of the medical curriculum and the multiplication of accessory diagnostic methods as we do, but he practically says the same in other words when he questions:

"What is wrong with medical education that it should while multiplying the diagnostic aids and instilling far more basic science than our fathers had, be failing in its cultivation of judgment and the faculty of perception from which judgment derives?"

The wrong lies, he says, with the method of teaching: the natural method of acquiring information is steadily replaced by a diadectic method.

From whatever view point one may look at the question, there is no gainsaying the fact that clinical sense is becoming obliterated by frequent and exaggerated emphasis on laboratory methods.

We certainly do not decry the achievements and the aids of the laboratory in the field of medicine and its practice. They have come to stay, and stay they must to correct human judgment which is not infallible. But to override, to neglect or to forego the advantages of human observation, experience and judgment in the field of medicine is to own the supremacy of *deus ex-machina* without as yet any valid justification. Let us not forget

that science is for man and not man for science. We may be accused of being ancient in our outlook, but that does not matter so long as we express a truth which is neither ancient nor modern but eternal. If the machine marches behind the man, it will be in the natural order of evolution, but if the machine is allowed to march before the man confusion is inevitable.

Life Insurance without Medical Examination

The cheap gibes which the President of the Indian Life Assurance Officers' Association has indulged in the columns of the *Insurance Herald*¹ against the acknowledged leaders of the profession, and incidentally against some of our political leaders, in the course of his reply to the General Secretary of the Indian Medical Association betray a strange infatuation, a lamentable lack of perspective and obliquity of judgment.

We certainly do not dispute the right of the President to refer the question of life insurance without medical examination for the opinion of the member-companies, but that does not bestow on him the privilege of slinging mud on the responsible members of the organised profession.

After all what the General Secretary of the Indian Medical Association said was almost identical with the editorial views of the *Insurance Herald* itself^{2,3}. Both uttered a warning that under present conditions of public health in our country and the meagre organisation for medical relief to our people, of the many tropical diseases still uncontrolled and the consequent heavy toll of invalidism and mortality, it would be premature, unwise and even suicidal if the insurance companies followed the doubtful, and even, inapplicable, foreign examples. What has the expression of this opinion to do with the President's analogy of a medical man condemning the Ayurvedic and Unani systems of medicine as unscientific or a politician's wrong forecast of Spanish Republicans' victory? This kind of cross criticism may satisfy a proud and offended temper but it can by no means form a basis for mutual discussion and decision.

Obviously the President did not relish the idea of the General Secretary of the Indian Medical Association in questioning his wisdom and tactics of not consulting the organised

medical profession on a matter of such importance as Life Insurance, without medical examination, about which none are better placed and qualified to express an opinion than the medical associations of this country. The profession has got to do its duty by its clients of whom the insurance companies form one, and if in the discharge of its duty impediments are thrown and motives are insinuated, it has got to overcome them in their own interests and do its duty without fear or favour.

The President also accuses the General Secretary of the Indian Medical Association of divulging the pending confidential negotiations. We have no hesitation in characterising this as utterly unfounded. The Editor of this *Journal* is a member of the Joint Insurance Committee of the Indian Medical and the All-India Medical Licentiates' Association and as such it can be substantiated by him that in none of the correspondence in the columns of the *Insurance Herald* by the General Secretary of the Indian Medical Association has he betrayed or divulged any part or whole of these transactions except the incidental mention of the existence of the incomplete state of such transactions.

Apart from this regrettable press controversy, we may be pardoned if we point out to the Insurance Officers' Association that insurance without medical examination is a big commercial risk, a penny-wise and pound-foolish policy. None realise it better than ourselves that insurance companies have not reaped that benefit which they expected out of medical examination of proponents, but the fault is mostly with their organisation. They appoint a number of medical examiners in a city, apparently for the convenience of the proponents, but this really leads in practice to the choice of an amenable medical examiner by the insurance agents or representatives who are in hot-haste to make up their quota of insurance business. Secondly the medical fee is so low and the appointment of medical examiners is made on such considerations that it has become difficult and dangerous for the insurance companies to build their business on medical certification. Thirdly, none of the insurance companies in our country, to our knowledge, take that lively and essential interest in the health of the insured persons by offering medical aid to them which is necessary and inevitable to the financial safety of the insurance companies themselves. Their business begins and ends with the medical certificate of health and insurability, and no wonder, therefore, that in this country of

¹ May 27, 1939, P. 80.

² May 13, 1939, P. 59.

³ April 29, 1939, P. 39.

Betaxin

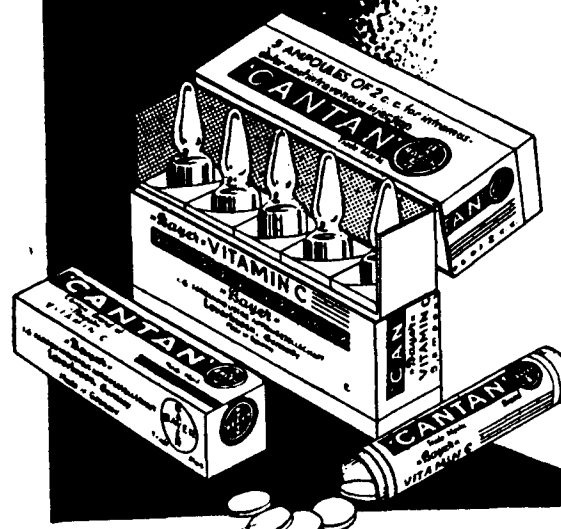
The
Antineuritic Vitamin
in
all conditions of
deficiency

B₁

Beri - Beri, Neuralgia
Neuritis



CANTAN

»Bayer«

C Vitamin

in

Scurvy — Haemorrhagic
Diathesis — Vomiting of
Pregnancy — Gingivitis,
and other conditions of
C deficiency.

Importers: **BAYER REMEDIES LTD.** BOMBAY CALCUTTA LAHORE MADRAS RANGOON.
P. O. B. 642, BOMBAY. P. O. B. 17 P. O. B. 2122 P. O. B. 142 P. O. B. 76 P. O. B. 36

Branches:

CRINO-MENSTRYL

FOR OVARIAN INSUFFICIENCY

ASTHENIA DEBILITY

CRINO-STHENYL

MANAGING AGENTS: FRANCIS KLEN PHARMACEUTICALS, LTD. P.O. Box 777, BOMBAY

lightning and devastating epidemics and huge toll of mortality of epidemic and other diseases any certificate of health and insurability, however conscientiously and strictly given at the time of examination, is bound to prove futile in not a little number of cases from the insurance business point of view.

The organised profession in this country is not so clannish and selfish as not to concede that some of its members who are in insurance work have failed to discharge their duty, and while it has no desire to shirk this truth and responsibility close study and experience would show that this failure is due to defective organisation, petulant attitude, narrow perspective and the desire for easy returns on the part of the insurance companies. The remedy therefore lies not in abolishing medical examination but in devising an organisation by which medical opinion cannot be corrupted as far as it is humanly possible, and by which the continued maintenance of the health of the insured persons can be made as one of the responsibilities of insurance companies in their own financial interests.

career in the army, the navy and the industry is almost outside the purview of the Indian youths. What remains is municipal and Government service which cannot absorb more than a limited number. The only large field that is open for them is private practice, but here natural causes such as poverty of the people, absence of thriving trade and the plethora of quacks have made it one of futile and perpetual struggle in which many perish and only a few survive.

And what is worse, the unemployment and helplessness of our young medical men are being exploited not only by private hospitals and industrial concerns but also by the Provincial Governments.

The latter are displacing the paid by the honorary service, mostly without even an honorarium, or if there is one, on a pitiable allowance of Rs. 15 or 20 or at the utmost Rs. 30. All these are said to be reforms in the name of the nobility of the profession, and the spiritual utility of sacrifice on behalf of and service to the people.

We write these notes in deep anguish and our search for remedies has proved utterly futile. We have exhausted the methods of appeal to the powers-that-be.

Medicine as a Career

Although Medicine as a career never made a strong appeal to our youths, yet the more enterprising among them fought hard and made a successful if not an equally prosperous career during the last one hundred years of the history of modern medicine in this country.

Owing to foreign rule, the foreign elements are more predominant in the profession and carry away the plums of office and the honours of achievement.

Things are shaping better since the days of Minto-Morley reforms, and the progressive association of Indians in administration has become as fruitful in the domain of medicine as in politics. While prospects have never been rosy, there is now opportunity enough to prove that our youths who have taken medicine as a career can distinguish themselves if proper opportunities are given to them.

But the opportunities are still tardy and few, and more than a single cause has been operating in this direction. Different standards of medical education and water-tight compartments in medical services; the different systems of medicine and the low economic condition of the people have closed the door against honest ambition and striving. Medical

The plain truth is that everybody and every institution belonging to the public, the Government and the industrial firms take undue advantage of the state of acute unemployment among the members of the profession and offer them disgraceful salaries and conditions of service.

If there is unity and organised life among the members of the profession, they would easily and quickly derive the strength and the power to stipulate reasonable conditions from the employers. But the tragedy is that they do not enthusiastically and in sufficient numbers join regional or all-India medical associations, but harp on their own misery and helplessness without uniting themselves in common action and endeavour. Until this supine attitude changes we are afraid that nothing better can happen. Let our comrades in the profession realise that none can kill them except themselves, and this stupendous tragedy of their suicidal inaction and disunity is assuming such a huge proportion that unless they shake off the slough of despond, the future can hold out no hopes of escape for them. They will continue to remain creatures of circumstances and victims of exploitation.

PHTHISIN

A Safe and ideal remedy for Phthisis and Asthma. Innumerable tests and testimonials

Injections followed by:

- Early disappearance of symptoms.
- Rapid increase in the body weight.
- Sputum rendered T.B. free by 10-20 bi-weekly injections.
- No toxicity, no danger.

Revised price: Rs. 10-0-0 per 6 x 1 c.c. ampoules
For Doctors Rs. 8-0-0 only per box

SYROP-PHTHISIN

A palatable cough cure—tuberculous or otherwise
Rs. 1-8-0 per 8 oz. bottle

HAEMOSARSOL

For Blood Impurities and Leucorrhœa
Rs. 1-8-0 per phial

Phthisin Laboratories

Benares City

The South Indian Eye Laboratory

Chodavaram. (S. India)

Manufacturers of:

Eye Ointments of Standard Strength and Purity

Available at:

1. APPAH & Co., China Bazaar Road, Madras.
2. J. TIRAH & Co., 4, Bunder Road, Karachi.
3. BOLE BROS., Princess Street, Bombay.
4. AGARWAL'S EYE INSTITUTE, Daryaganj, Delhi.
5. C. V. SHAH & Co., Princess Street, Bombay.

NOTE THE CIRCULATION OF INDIAN MEDICAL JOURNAL

131, CORAL MERCHANT ST., MADRAS.

Sulphanilamide in Small-pox

If our readers have been carefully studying our frequent editorial notes on sulphanilamide they would not have failed to note a deep sense of restraint which governed our remarks. We never questioned the brilliant achievement of science in having discovered a chemical formula which has the potentiality of yielding a product of untold therapeutic possibilities. The chemistry of sulphanilamide is now better understood, and as a result of the possibility of modifying its chemical combination with a view to make it safer for human administration, various derivatives of sulphanilamide have been developed, of which the latest is M. & B. 693 which bids fair to be a standard treatment in pneumonias. Also, the action of sulphanilamide is now better understood than before and this has led to a better appreciation of its limitations and to the technique of overcoming these limitations as far as possible. It is now acknowledged by many observers that its action is chiefly bacteriostatic and that its bacteriostatic action is at its height if the natural or the aided powers of the immunity of the patient are reasonably available or induced by artificial means, such as preliminary vaccine and sera. With this hypothesis, the effective action of sulphanilamide becomes intelligible and explains its usefulness in a variety of infective conditions due to different micro-organisms. In other words, the bacteriolytic specificity of sulphanilamide is less important than its powers to induce quick bacteriostasis which will create an environment in the serum and in the tissues inimical to growth, multiplication and toxicity of organisms lethal to man. Therefore it is that clinical trials of this drug in numerous affections whose specific bacteriology is different have been reported in the medical press as generally satisfactory, at any rate much better than under old methods. The latest that has been included as coming under the sway of sulphanilamide is the exanthemata, particularly small-pox, and the first report of this in this country, so far as we are aware, was made by Rama Rao at the Scientific Session of the All India Medical Licentiates' Association held at Gauhati last December. He said that in the isolation hospital at Madras, Protosil Rubrum was tried and found fairly successful in shortening the duration of convalescence, in preventing

septic complications, in helping quick drying and shedding of the scabs and in lessening the mortality of severe cases¹. We did not comment on this report but awaited further confirmation. Walter McCammon now reports, that the drug seems to have a beneficial effect in the treatment of small-pox when administered early in the disease. He summarises his observations as follows:

"Three of the seven patients were treated symptomatically and in all the three typical eruption of small-pox developed; the remaining of our patients were given sulphanilamide, and in three there was only an evanescent macular eruption which rapidly disappeared and in the remaining case there were only three pustules while convalescence was reduced about a week less than in those who did not receive the drug."

It is very difficult to interpret these results, particularly as they are not long-range observations on a larger series of cases, except on the theory of bacteriostasis. And unless these results are further confirmed we are rather reluctant to press the case for sulphanilamide in small-pox. The best we can say is that it deserves further trial and observation in large isolation hospitals before the practitioner could reliably be advised in this respect.

Detection of Tuberculous Infection

Anti-tuberculosis campaign is in the air and provincial organisations are rapidly coming into existence. Naturally, the question of early diagnosis will loom large, as in fact the success of the whole campaign depends on it. There is no physician, whatever his experience, who has not been fooled by this disease sometime or other. It has often been diagnosed when it is not present and equally often the patient has been assured that it is not present when it is. Therefore the question of diagnosis must be reviewed both from the point of view of methods and their reliability. As the things stand at present, no single method can be claimed as absolute unless evidences derived from other methods are also taken into account. Physical, radiological and bacteriological methods have all to be utilised to arrive at a proper diagnosis, and incidentally they may also indicate the stage of the disease. These methods have been reviewed in our last issue in the *Tuberculosis Notes*, and as such it is needless to repeat them again. What we want to stress now is a plea for a more extended use of tuberculin test among children to establish an epidemiologic index or rate of incidence of tuberculous infection in each community and region in our country. Of course the tuberculin test is not infallible

¹ I. M. J., March 1939, P. 57

² Jr. A. M. A., May 18, 1939, P. 1986

SUPPLEMENT TO THE INDIAN MEDICAL JOURNAL

MADRAS

AUGUST 15, 1939

No. 8

CONTENTS

	Page		Page
The Problem of Medical Relief in India -	137	District Board Rural Medical Officers' Grievances, Punjab -	147
The Practitioner as Scientist -	143	Service Notes -	148
Development of Public Medical Service in Great Britain -	146	Association Notes and Accounts -	151

The problem of Medical Relief in India *

● Captain E. S. Gopalan, M. B., M. S., A. I. R. O., Coimbatore

The subject I have chosen for this evening's discussion is timely. Only last week the Director-General of the Indian Medical Service has published a bulletin, extracts of which were published in the daily papers. Some of them wrote leading articles also, on the subject. Apart from this, the actual medical administration in the British Indian Provinces is in the hands of popular ministries responsible to totally elected legislatures on a wide electoral franchise. It is natural, therefore, that medical relief, in all its aspects, should be anxiously considered by the popular ministries.

Not alone India, even advanced countries such as Great Britain, United States of America, Australia and New Zealand, have yet to perfect their system of medical relief. In Great Britain, the bold experiment of National Health Insurance for the working classes is being subject to critical study. The profession in the United States of America, if we have to judge from the views of the American Medical Association, is against the British plan, though President Roosevelt in his plan of the "New deal", may experiment on some such system to fulfil his promises. The Labour party in power, in New Zealand, is about to introduce a system of National Health Insurance. Russia has solved the problem in its own way. Unprejudiced British observers have reported that Medical relief in Soviet Russia has no comparison with its state in the Czarist regime.

It is no wonder that politico-social ideologies are discussed in India and with increasing political consciousness of the masses, the system of medical relief should also undergo revolutionary changes. The system of medical relief has never been and

will never be, static. It is bound to undergo changes due to evolutionary or revolutionary changes consistent with the contemporaneous changes in the system of society called the Government.

But in the changing and future India, the men at the helm of affairs should not forget certain fundamental factors which have a lot to do with human affairs. So far as medicine is concerned, mechanization and regimentation of doctors, should be normally avoided, though in exceptional situations like a great national calamity, it may be permissible. Medical relief should have its pivot in the family practice system. I am omitting purposely the case of the specialists who are in a minority against the large army of general practitioners. No patient, rich or poor, should be deprived of medical attention, at the hands of the doctor he chooses on the criterion of richness or poverty alone. Any system of medical relief to the masses must be based on this vital point. The general practitioners collectively must be responsible for the health and welfare of the masses. Is it possible? one may ask. I say it is not only possible but inevitable and equitable.

THE SERVICES OF MEDICAL MEN ARE NOT UTILIZED PROPERLY

Men in power say that the number of qualified medical men working out roughly at 1 for 10,000 of inhabitants, is inadequate. True: But I ask, are the services of these 35,000 to 40,000 qualified doctors, fully utilized by the State? It is a deplorable fact that while on one side the masses are crying for medical relief, doctors and more doctors

* A lecture delivered at a meeting of the Coimbatore District Medical Association held on 12th November 1938, Courtesy: *Journal of South Indian Medicine*.

a good percentage of medical men are languishing for want of professional work and taking to such questionable practices as representing manufacturing firms, travelling representatives, insurance agents and vendors of patent medicines. What is the use of manufacturing more doctors, if, at the end of a strenuous obstacle race, the society has no need for them? Any well-wisher of the masses must take into account the vital problem of how to utilize the potential energy of the unemployed medical men to the services of the ailing public and to the public who want to prevent ailments. The problem is simple. The problem is difficult. The problem is simple for those who like myself, want a re-orientation of the whole medical policy. The problem is difficult for those who want to do patch-work here and there for a structure which is declared unsafe by competent authorities. An unsafe building must be demolished even as an incompetent system of medical relief must be scrapped.

PREVENTIVE MEDICINE

In the field of preventive medicine, there is ever only a lip sympathy for the role of a private practitioner as the man on the spot. The private practitioner, I can say from experience, is not fully trusted. To take one example, Government is anxious to eradicate venereal disease and has started clinics in the bigger hospitals. Is it going to solve the problem say of the satisfactory cure of syphilis? Even the poorest has some delicacy in going to a public institution for the cure of venereal disease. But he cannot afford to go to his private doctor, because of the costliness of the drugs. But I dare say, if the practitioner is trusted with free Salvarsan and free Wassermann reactions to be utilised for absolutely indigent only, the venereal problem will be solved more satisfactorily. You can open any number of venereal clinics but the problem will be only solved when you utilise the services of the independent profession in full. As in the case of venereal diseases, so also, in all the aspects of preventive medicine, the private practitioner can be given greater responsibilities. Personally I am against the bifurcation of the preventive and curative aspects of medicine into two water-tight compartments. Fully paid medical men in the preventive section, are needed only for research, and not for carrying out the routine duties in municipal and other administrations.

Consider for example, the public health administration of a Municipal town like Coimbatore. Its population may be roughly a hundred thousand, and there are no less than eighty or ninety qualified practitioners. The work of the health officer can be done by a Health Committee chosen from the practitioners. The members of the Committee need not be elected Councillors. A senior sanitary inspector may be the executive officer for health, responsible to the health committee. When an epidemic threatens the whole medical profession of the town, if not the district, can be utilised to do preventive and educative work to combat the menace. Given responsibility, the medical profes-

sion will rise to the occasion. If you treat the profession as an outside body, completely ignorant of health problems, but still requiring their services when you condescend to have them you cannot expect their co-operation and their services to society are lost.

So far as prevention in the rural parts is concerned, the village subsidized medical practitioners can be entrusted with the work and also any private practitioner unsubsidized.

The offices of the District Medical and preventive officers may be amalgamated. The combined officer, deprived of the professional work in the headquarters hospital, which can be managed by the local practitioners themselves, may be free to tour the district and look after the medical administration in the preventive and curative aspects.

THE PROBLEM OF ANCIENT INDIAN SYSTEMS OF MEDICINE

I have dealt with this problem fully, elsewhere, and I have concluded that a synthesis of the ancient systems with the scientific system, must be achieved soon, by intensive pharmacological research on all the reputed Ayurvedic, Unani and Siddha drugs and incorporation of them into an Indian Pharmacopoeia. It may take quarter of a century or a half century but it has to be done before the present generation of Vaidyars and Hakims die out.

INADEQUACY OF MEDICAL RELIEF

It is accepted that the medical relief is inadequate at present. Can the State go on building more hospitals and dispensaries and staff them? Even if the professional services are rendered honorary, *where is that to end?* The honorary system implies that there is scope for remunerative practice outside the State hospitals and public dispensaries. If the state goes on building more hospitals and dispensaries and expects men to work honorarily, the scope for private remunerative practice will gradually dwindle and medical men cannot live on air. Even such multiplication of hospitals and dispensaries, at the expense of the State will be very costly and Government cannot cope with the situation.

If the State contemplates to have a fully paid system of medical relief, even that will be still more impossible for obvious reasons. The bulk of the revenue will be spent away in the up-keep of institutions and salaries of medical officers.

If the State cannot undertake complete relief out of its own resources, what then should it do? There is an army of medical men who are only waiting for opportunities to utilise their hard-won professional knowledge and skill. Why not utilise their services?

HOW TO UTILISE THE PRIVATE DOCTORS' SERVICES

The honorary system may solve the problem to a limited extent and I am of the view that the honorary system should be restricted to treating poor in-patients in the existing state and public institutions and should not be utilised to staff out-

patient departments of hospitals and dispensaries. The distinctions between out-patients and in-patients, I consider fundamental and on this distinction I am going to construct my plan on the solution of the problem of medical relief. The honorary system should not be strained to deal with every aspect of medical relief.

FAMILY PRACTICE SYSTEM

I should enlarge the scope of the family practice system even to treat poor and indigent patients. I do not see why the State should not pay some subsidy to private practitioners if the latter volunteer for the same and maintain a satisfactory register of poor patients treated. The scheme of the subsidized system may profitably be employed in every aspect of medical relief and prevention. This subsidized system is also in vogue in the department of education. Directly or indirectly the State derives its revenue from the masses of tax-payers and it is incumbent on the State to utilize it to the benefit of the masses through the army of medical men.

The panel practice system obtaining in England is based on this essential principle of utilizing the family doctor to treat indigent people for a small contribution. England has built up a system suitable to its genius and its peculiar conditions. Even the unemployment dole of an English Labourer will be ample for a middle class family in India. It will not be practicable to copy the English model since the taxable capacity of the Indian masses is negligible. Moreover the machinery for the working of the English panel system is said to be complicated. For India I should propose a single system of subsidy based on the annual attendance of the poor patients at the office of the subsidized practitioner. The district medical and preventive officer may inspect the registers periodically and certify to their proper upkeep.

In order that there may not be overcrowding with a particular doctor, the maximum subsidy must be fixed. This provision will tend to distribute the work among many doctors.

INCOMPETENCY OF THE PRESENT STATE AND MUNICIPAL DISPENSARIES

However much one may admire the popularity of dispensaries by a census of the crowds attending them, I am very sceptical, having had experience of out-patient work of a specialized nature in the leading hospitals of the Presidency for more than 8 years, about the quality of the work turned out. If in a premier teaching institution, there is scanty scope for work of a high quality in the out-patient department, we can very well imagine the conditions in the other State hospitals and Municipal dispensaries. The doctor has no time to think and has to dispose hundreds of cases in a couple of hours. The patient may be satisfied with a bottle of coloured medicine, but can the doctor make bold to say that he is practising a reasonable standard of scientific medicine. But for the utter helplessness of the masses and their grinding poverty these medical booking offices,

miscalled dispensaries, would have ceased to attract such crowds. I wonder if, in a busy Municipal dispensary, it is possible to take the temperature of a patient complaining of fever, or to make an examination of the chest in the proper manner. Yet there is a cry for more dispensaries and the elected councillor pleads for greater expense for dispensaries, drugs and low paid doctors. I ask is it fair to spend public money on the unscientific practice of scientific medicine? Instead of two or three doctors disposing 400 or 500 out-patients in an unscientific manner, why not the work be distributed among 50 doctors at the rate of ten patients for each doctor for a nominal subsidy? The subsidized doctor can at least spend 5 minutes over a case, and is not likely to miss any important feature of the case.

So I should unhesitatingly abolish all the Municipal dispensaries, in places where there are competent private practitioners of the requisite number and utilise the saving for not only subsidizing the practitioners but also for starting a public clinical Laboratory in co-operation with the State for doing clinical service to the practitioners in general and subsidized practitioners in particular. I would even have a public X-ray department with provision for physical therapy to serve the local needs.

In towns where there are a large number of private practitioners, public dispensaries doing third rate work are a menace to public health and to the profession. I can understand the existence of specialised out-patient departments in first rate public hospitals, where cases are referred by private practitioners for substantial reasons. But I cannot see why we should continue to fool the public by pretending to attend to them as scientific men. 95 per cent of the work done by these dispensaries are of a nature that can be more efficiently done by subsidized practitioners. The time spent in dismissing hundreds of patients with mixture alba, mixture influenza, or cough mixture etc., may be spent in examining 10 to 20 cases referred by practitioners by competent specialists in each particular line. So the time has come not only for the abolition of the Municipal dispensaries but also for the State hospitals to confine themselves to works of specialised nature referred only by private practitioners, and the real emergencies.

PRIVATE PRACTITIONERS AND POOR HOSPITALS FOR IN-PATIENTS

If public dispensaries are abolished and the out-patient work of poor hospitals are restricted to the necessary minima, I do not see why the private doctors should not have facilities for treating their poor patients in public hospitals as in-patients. When a private doctor is competent to treat, say, a paying enteric case in the patient's house, he can easily treat a poor enteric case in a poor hospital. Where a private doctor is admittedly competent to treat a particular case, he must be given full facilities to treat it in the public institution, or must be allowed to share in the treatment along with a competent specialist. People who are inclined to make a fetish of so-called administrative difficul-

ties may object to this innovation. It is no innovation either. Such a system obtains in Canada where a big hospital of about two-hundred beds, belongs professionally to all the private practitioners of the locality and any private practitioner is at liberty to treat his case in the hospital. Under such a system the so-called paid system, and the much criticised honorary system, may be replaced by the rational method of the family practice system.

This ideal of public poor hospitals to be managed by the local practitioners, may not be completely practicable, because the nature of the services rendered by such hospitals is likely to be of a specialist type. If such be the case the specialists ought to be recruited from private practitioners either on an honorary basis or for a small honorarium. If the work turned out by these poor hospitals is not of a high quality than that obtained in general practice, I would freely allow the practitioners to treat their own cases in the hospital.

FETISH OF SPECIALITIES

While specialities on a broad basis such as medicine, surgery, obstetrics and gynaecology, otorhino-laryngology, ophthalmology etc., must be welcome, I cannot understand the usefulness of such a splitting of the specialities as leprosy, tuberculosis, proctology, chest surgery, venereology etc. True a few may be allowed to be proficient in such a small subject as bronchoscopy or gastroscopy but these should be exceptions. The treatment of tuberculosis or leprosy can as well be managed by a private practitioner in occasional consultation with an accredited specialist but the tendency to send all cases to the so-called tuberculosis or leprosy specialists, is surely the limit. The tuberculosis or leprosy problems are not going to be solved by appropriate sanatoria or colonies respectively, alone.

Socio-economic factors, play a large part in these problems and in evolving a more equitable distribution of the world's materials, the private medical practitioners must play their part nobly. Is it the object of sanatorium life to keep the tuberculosis patients perpetually in their midst? Surely not. If that were so, every taluq should have a sanatorium on the lines of Madanapalle and Perundurai. The sanatorium must be a temple of education in the methods of correct living. The sanatorium ideal must become the national ideal and tuberculosis, or no tuberculosis, every family in India must be made to lead a life as is obtained in a sanatorium, so the best approach is to bringing the conditions of a sanatorium to the very door of the citizen of India. And to accomplish this a thorough reordering of society is necessary. I do not want to pursue the matter further. My object in this little digression from my main theme is to bring before the profession that there must be a limit to the splitting of medicine into the specialities. The general practitioner should not be merely an R. M. S. sorting clerk but must take courage in his hands to treat all reasonable cases medical or surgical, including tuberculosis, leprosy, venereal

diseases etc. I do not know if in the scheme of the King George V anti-tuberculosis fund, the general practitioners has any part to play but, I should warn my brothers that they should not be a party to commit suicide by listening to the cry that only specialists should handle tuberculosis at all times. But I am certainly not against timely consultations with reputed specialists. The general practitioner must try to retain in his hands all cases which he is reasonably expected to treat.

PRIVATE HOSPITALS AND CLINICS

In India hitherto the State had to shoulder the burden of medical relief to the poor. A few missionary institutions are a notable exception to this general state of affairs. Perhaps the State, circumstanced as it is, cannot afford to open more institutions. Even if it does, it has to find money from the tax-payers. But I strongly believe that there is a great scope for private enterprise. India is said to be the land of charity but I know from experience that this is a land of misplaced charity. I know of many sincere souls who have burnt their fingers in noble causes for want of reasonable charity. In another municipal town noted for its monumental temples, there was a time when money was spent like water in municipal and taluq board elections, but a natural primary school for girls, is even to this day under artificial respiration. It wanted a few thousands and there have been no donors so far. Judging from numerous past instances, I can say that charity has left India to find congenial soil in England and America. The amount spent by unofficial agencies in England and America for medical relief to the poor, must stagger even the most charitable-minded Indian.

But we need not despair. If the medical profession as a body is charitably inclined, we can expect reciprocal charity from the public. If we combine together and offer our services to the poor we can ourselves build any number of institutions and need not compete with each other for all and sundry jobs in the State hospitals. To build an institution, proper men are wanted and not mere materials alone. We can even treat patients in thatched sheds or tents in an extensive open space. What is co-operative effort. If once the public realise that we are sincere, we really want to serve the poor public, we can tap their pice if not their rupees, and simple arithmetic tells us that one rupee from an unwilling hand is equal to 64 pice from willing hands.

I am sure that the State, though it may not be able to finance institutions fully, may yet be willing to give reasonable subsidies for philanthropic institutions not working for profit. Judging from this stand-point, I must say that the examples of Madanapalle and Perundurai are meritorious. And I must congratulate our President in this connection, that he is an able and lucky beggar in the Perundurai affair. I wish him still more luck in his beggary in the future. And may I not appeal to him, in this connection that once he settles the Perundurai on a satisfactory footing, he should

seriously work for a private general hospital for the poor in our very city of Coimbatore.

NURSING SERVICES

An important auxiliary to medical relief is the nursing facilities, for the sick. Nursing in sympathetic and competent hands may mean the difference between success and failure in the management of a case like enteric fever or post-operative management after a serious operation or the management of a normal labour. A good number of patients are high strung and nervous, more so when they are in pain and physical distress. A nurse who combines in herself or himself sympathy, tact and firmness may tide over crises.

The State and missionary hospitals have qualified nurses, though even there, there is a great scope for marked improvement. But when we come to nursing in private practice, we are woefully in the pre-Florence Nightingale period. And it is a paradox also that, more often, the fees for the doctor is comparatively less prohibitive than the fees for the private nurse. It is so because private nursing, barring mid-wifery nursing, is not yet given the importance it deserves. I have encountered in my former general practice, cases of acute bacillary dysentery insisting on walking to the latrine 50 to 60 times a day. You can well imagine the amount of exhaustion this to and fro walking might cause in an already exhausted patient. The Government may solve the problem in its institutions by forming a cadre of male nurses, which by the way, is a very commendable measure not deserving of the adverse criticism from vested interests. But how are we to provide nursing in private practice? Are we not losing cases by admitting even paying cases into public hospitals for want of nursing facilities? I have dealt with the subject of private co-operative nursing homes elsewhere. The only way of properly tackling this problem is to pay subsidy to qualified nurses enabling them to set up private practice. Only if the nursing is made cheaper will it become popular among doctors and patients.

In this connection I want to impress on all that certain elementary things in nursing such as (1) giving a sponge bath (2) giving an enema (3) taking temperature and (4) preparing a bed etc., must be taught to every able-bodied adult male or female. Just as Air Raid precautions are taught to masses of people, so also these are essential nursing aids.

FIRST-AID MEASURES AND HYGIENE

Elementary lessons in human physiology, Hygiene and first-aid must be taught to all students of the III or IV or V Form.

THE CURSE OF PROPRIETARY MEDICINES

We must restrict the use of patent medicine to the minimum. Most of the diseases are very amenable to single medicines in the pharmacopeia. The indiscriminate prescription of numerous tonics, this cure and that cure has only a demoralising effect on the practitioner. The claims put in by certain

manufacturers for certain of their so-called specifics are spurious. We should never be a party to the abdication of genuine pharmacological products, in favour of patent frauds. We can profitably copy the methods adopted by the American Medical Association.

MATERNITY AID

Women welfare clinics may well be managed by subsidized medical practitioners and full-time nurses. For patients requiring maternity aid at their homes, subsidized midwives may be employed.

LABORATORY FACILITIES

As I have already indicated some of the amount spent in managing useless State and municipal dispensaries may be utilised in establishing district and taluq clinical laboratories where free laboratory service can be given to poor patients under the subsidized practitioners. The figures quoted by Guindy, Madras Medical College, and Pasteur Institute, Coonoor, are staggering for even the middle-class patient. An indigent patient, under a private practitioner, has to shell out Rs. 10 for a serum reaction, before he could purchase a neosalvarsan tube for Re. 1—4—0. A private indigent patient has to shell out Rs. 20 or so for Widal and blood culture before he could purchase milk for preparing whey. Under this system a patient may have faith in a particular doctor, but the conscientious doctor has to send the patient to the nearest hospital. It is here that the hospital doctor paid or honorary is at an advantage and it is this which has led to a lot of questionable tactics adopted by the practitioners attached to such institutions from the General Hospital, Madras, down to the taluq board dispensary. This must go and I have every reason to hope, it will go in the near future. I need not add, that, in addition to laboratory facilities, we should have X-ray facilities for our poorer patients.

MILITARY MEDICAL SERVICES

Last, but not the least in importance, I come to the much debated Military Medical Services. I have no hesitation in characterising it as an expensive anachronism. These services might have had some justification in the mid nineteenth century and immediately later. If there had been progress in medicine, in India, it is not on account of the Indian Medical Service but in spite of it. But look at the progress of medicine in India, and compare it with Japan, U. S. A., Australia, etc. We are quarter of a century behind even these later civilizations. This service, paid by the Government and a host of other subordinates has been a dead-weight to the rational development of modern medicine and to the genesis of a cultured independent profession. I am not going to dilate on the topic except to say that this essentially Military Service on such a large scale, stifling the independent medical profession every minute of its existence, must be given up in favour of (1) a minimum number to cater to the health of the army on a substantially reduced scale of pay (2) clearing the civil side of the service of all the Military Service officers (3) creating a large reserve of civil medical

practitioners for purposes of national emergencies and (4) making the civil hospitals of the State cater to the treatment of the sick and injured from the military in return for a subsidy from the Federal Government funds. Even at the present moment serious cases are transferred to the Civil hospitals, and if so, why need we have such a costly institution as the Indian Medical Services and hospitals like the Military hospitals, in peace time.

CONCLUSION

These are my views on this important problem of Medical relief in India and you can take it from me, that my criticisms are against the system and not against individual officers past or present who have been or are in this soulless machinery.

I propose, briefly, to discuss three measures which the Madras Government have introduced or about to introduce in the matter of Medical relief, as appendices to this paper. They are (1) The re-organization of the provincial medical services (2) Alterations of conditions of the subsidised rural medical practitioners.

APPENDIX A.—RE-ORGANISATION OF THE PROVINCIAL MEDICAL SERVICES

The proposals taken as a whole, are well-intentioned and if successfully worked, in the proper spirit, will be a great blessing to the people of this province, and a splendid opportunity for practitioners with a zeal for service for its own sake, irrespective of rewards. But there are some details which are bound to be irksome in practice and some aspects which in my view require re-consideration. My criticisms will be under following heads (1) who is to determine the number of officers needed for the institutions? (2) the grading of officers (3) the scheme in respect of the teaching institutions (4) tenure of appointment (5) honoraria (6) study leave on allowance.

(1) NUMBER OF OFFICERS FOR INSTITUTIONS

According to the present scheme, the initiative for settling the number of posts for institutions is left vague. For the Madras City Hospitals, the Minister himself seems to have taken the initiative after frequent visits. What about the district and taluq hospitals? You can never expect a reasonable initiative from District Medical officers. They will always be content with the existing state of affairs. And so the Government must proceed on certain principles depending on the bed strength and out-patient attendance. In the absence of such a clear-cut policy, the opinions of individual district officers will vary a good deal. Personally, as I have indicated elsewhere, I should have on an average, one officer, for every ten beds and one officer for every 25 to 30 out-patients.

(2) THE GRADING OF OFFICERS

These grades are necessarily not based on class distinctions but based on experience. I should have the former grading (1) clinical assistants (2) assistant medical officers (3) physicians and surgeons. The first grade must be meant for newly

passed out graduates and licentiates. The second grade must be for those who have matured out of the first grade. The third grade must be given to men who have passed through the first two grades and possess exceptional merit or higher academic qualifications. The art and science of medicine is perfected by experience and study. Junior men should not be straightaway be made responsible assistant medical officers. In the English Voluntary hospitals, the post of an assistant physician or surgeon is never attained so easily as in India. In this respect the scheme is not practical.

(3) THE SCHEME IN RESPECT OF TEACHING INSTITUTIONS

So far as pre-clinical subjects such as, Anatomy, Physiology, Pathology, Pharmacology etc., are concerned, the honorary system should not be introduced. The teachers in these subjects must be full time and paid adequately, private practice being debarred. For clinical subjects honorary professors and lecturers may be appointed on a suitable honorarium which should not be less than Rs. 100 per mensem. In big institutions such as the Medical College, Madras, the chair of each clinical subject even may better be held by a full-time professor, who must be deprived of any sort of private practice. The principle must be either adequate pay with the practice or no pay with unrestricted scope for practice. It is well that the local Government is seized of this important matter now.

(4) TENURE OF APPOINTMENT

This five years' tenure is a disappointment in the otherwise far-reaching scheme. The Government will not be well advised to lose the services of experienced men. The tenure for each grade of officer in each grade must be at least 5 years making a total of 15 years service. A new entrant to the cadre of clinical assistant, provided his work is up to a reasonable standard, must be assured of 10 to 15 years of service. Particularly in regard to teaching institutions, this small tenure is unjustifiable.

(5) HONORARIA

In my view the honoraria proposed in the scheme is not conducive to the healthy development of the honorary system. For honorary work why should there be grading of honoraria? The honoraria offered especially for the lower grades smacks of the cooly system. It does not speak well of the giver or taker. Better it is abolished altogether. When the service is done for the love of service, this ridiculous pittance must be considered as an unintentional insult to the profession. But I should certainly pay an honorarium of not less than Rupees Fifty per mensem to the clinical assistant cadre if that is established. The other grades need not be paid except part time lecturers in clinical subjects who must be paid not less than Rupees one hundred per mensem for special preparation of the subjects.

(6) STUDY LEAVE ON ALLOWANCE

Medical officers who want to make special studies in India or abroad must be given leave with

a subsistence allowance on conditions they undertake to serve the institution for 10 years after return. Frequent post-graduate studies are very important to maintain a high standard of practice.

APPENDIX B.—SUBSIDIZED RURAL MEDICAL PRACTITIONERS

It is unfortunate that just when rural medical relief, should be established on a satisfactory basis, the Government propose to throw cold water on the scheme by proposals for retrenchment. I am afraid this poor honorary system is likely to be overworked. The honorary system can be worked successfully only so far as specialized in-door treatment is concerned, where the honorary men can expect to get private practice outside the State hospital. To misuse this system for village dispensaries or even for municipal dispensaries, will discredit the system altogether. But the rules may be amended in such a way that in addition to a fixed subsidy, the rural practitioners may be offered extra subsidy depending on the annual attendance. By adopting such a method the allowance for medicine may be dropped. In no case should the pay of the midwife be withheld.

The Practitioner as Scientist *

• Lord Stamp, G.C.B., D.Sc., LL.D

I Suppose in most professional careers men reach a stage when they throw aside, not ambition, but text-books, and carry on with some new mine of knowledge that seems to escape the examiners. Indeed we are constantly being told that the first job of the newly qualified is to forget all they have learnt. But as a matter of fact I think this declaration is just a pose; it merely means that you come down from the general to the particular, and the particular is always a "little different." You are dealing not only with facts when you get a patient, but also with what he thinks about facts, and facts that are only just germinating.

The real difficulty about your profession as I see it is that it is the one calling that is expected to be both an art and a science. In others the artist can disclaim all knowledge of science or its methods, and be thought even the more highly of. In science a rigid adherence to scientific principles and refusal to be led away by individual differences to prove things in the main, as it were, is the hallmark of the real brand. It is true that the biologist has been told to "treasure his exceptions" because in them lies the tiny gateway to full knowledge. In medicine every case, I suppose, has its little exceptions.

Critics of the medical profession are always saying that you are given a smattering of one or two sciences, but that the majority of you lose all grip of them, and never pursue them as sciences; and only in a shadowy way do they afterwards affect your life. In fact you work empirically with a few rules, drugs, and books. You delegate to specialists specific pieces of scientific work that help your diagnosis but in yourself you do little that is scientific. There is much that is instinctive in

* Abridged from an address delivered at the prize-giving of Charing Cross Hospital medical school on June 8, Courtesy: *The Lancet*.

your subterranean consciousness and in your processes of deductive reasoning. If you have the knack of relieving pain, of creating confidence, of assisting nature, you may get high credit as a medical man with only an average power to cure, and no power at all to contribute to the science of cure. You are so much a part of the emotional life of mankind, its griefs and fears, even its economic potentialities, individual by individual, that you must be an artist to succeed. When you enter the house it must be primarily the artist in you that is uppermost.

OBSERVATION AND GENERALISATION

Every individual case of illness escapes complete classification because there is a background of the personal which makes it somehow different from every other case, and this background is part of the thing that you have to cure or allow for. Being individual you cannot subject it to scientific method, you have to feel it instinctively, and it is no good you being a thinking machine or an introvert; you must be a real extrovert, and have fitting human sympathy to understand such a background. But when you have got past the individual aspects of your case, after all, the person you are dealing with has a trouble which is not unique; it is one example of a large number, and therefore it has a high common factor with others, and therefore it is capable of generalisation, and therefore again it is capable of scientific treatment.

Each doctor accumulates for each complaint a little group of treatment and experience which forms his scientific body of knowledge. It is for many things so woolly in its outlines and so small in its number of cases that it is very hard for him to be certain that he knows the whole scientific truth about it. He cannot make a controlled experiment of different types of treatment of any size. The kind of larger scientific generalisation emerges in the hospitals, but it can only emerge for those complaints which hospital treatment mostly covers. The average practitioner finds it very hard to contribute to the body of general knowledge except by gossip and verbal communication to a few colleagues. Rigid scientific test for cause and effect is almost absent.

I recently had cause to say, in my address to the British Association at Blackpool, in reference to a project that has long occupied my mind:—

"The scientific ancillaries of medicine have made immense strides. Clinical medicine as an art makes tardy, unscientific and halting use of them. The public remain as credulous as ever, their range of gullibility widened with every pseudoscientific approach. (We do not know what proportion of positive cases can create the illusion of a significant majority in mass psychology, but I suspect that it is often as low as 20 per cent.) For a considerable range of troubles inadequately represented in hospitals, the real experience passes through the hands of thousands of practitioners, each with too small a sample to be statistically significant, and is, therefore, wasted from a scientific point of view. Half-verified theories run riot as medical fashions, to peter out gradually in disillusionment. If the scattered cases were all centralised through appropriately drawn case-histories, framed by a more scientifically trained profession, individual idiosyncrasy would cancel out, and mass scrutiny would bring the theories to a critical statistical issue of verification or refutation in a few months. Cures would no longer be as epidemic as diseases. This would be to the advantage of all society, and achieve an ever greater boon in suggesting new points for central research."

This seemed to me plain enough, but I found many doctors puzzled by it.

POOLING OF PRACTITIONERS' EXPERIENCE

As a whole doctors are not very strong on the statistical aspects of their work. Certain types of illness are not much found in hospital practice on a large scale. They are scattered through the community widely, but no one practitioner has many of them. If he generalises at all from the few cases that come to him, they may be few enough to have all the statistical perils of small numbers, the groups having no statistical stability nor the results any real significance. He may realise this, and decline to come to general conclusions, lapsing into statistical impotence or agnosticism. Or someone may put out a theory of treatment on a narrow basis of fact, and this, for want of a challenge, or of wide factual test, may run riot through medical practice for years before it is found wanting.

In a new American book, "The Horse and Buggy Doctor," by Dr. A. E. Hertzler, which I advise every young doctor to read, he remarks:

"When a new drug appears, a large number of doctors using it probably will believe that it acts beneficially. After a period of years its usefulness is found to be limited or nil. I remember very well when quassia was believed to cure cancer of the stomach. Nothing in fact, requires so much careful observation over so long a period of time as accurately appraising the value of the drugs as modifiers of the course of a disease. New drugs are introduced that are said to be more effective than the old ones, and the doctor must personally test this claim by observation."

Now if all the experience of the individual doctors could be pooled, and critical tests made, the truth might be quickly apparent. Suppose that in an aggregate of 1,000 cases, 500 had been treated in a particular way, and in the other 500 that "cure" was not tried; suppose that in the first group the full recovery ensued in 400 cases, but in the second group the number recovering was 350, there would be one kind of uncertain conclusion. But if the "control" 500 showed only 50 recoveries, the answer would be most definite.

Now this aggregation would require great care. In the first instance, the case-history or unit form would need to be drawn with much precision, to secure quantitative and unequivocal answers to critical clinical points, and uniformity in the conception of the replies. It would have to be supplied to a wide variety of practitioners, for if it were taken only by doctors with curious scientific imaginations, they would be a biased sample, likely to carry the scientific characteristic into the treatment of their cases. Each would have to undertake to complete it for all his cases, and not merely those he thought "worth while"; otherwise the desire to prove a case and to ignore awkward negative instances might vitiate the result. Such forms might then, in the central bureau, be capable of treatment by perforated cards through Hollerith or Powers machines, bring out automatically classifications based initially say, on one for sex, for age, for locality, for previous illness, for occupation, as well as the full undifferentiated aggregate, which often hides important sub-generalisations. In this way, though the individual case might be clinically personal, rule-of-thumb, empirical in treatment, it could yet become part of a great scientific induction. Probably negative proofs, proofs of inefficacy of particular vaunted methods, would greatly outnumber positive and triumphant results; but I am quite sure that most important leads for specific further research would emerge.

This grouping of the non-significant (or even the insignificant until it became significant, would be of enormous value to medical science. It would expose

quack remedy relentlessly. Again, the ordinary doctor is not very scientific, for if he does not feed the centre with details, for scientific use, so also he tends not to appreciate what the centre holds for him already. Here is a recent declaration:—

"Yet no physician is able to tell what causes the commonest variety of stiffened joints. The most shocking fact, however, is that the average practitioner, when consulted by a rheumatic patient, does not have even the knowledge that is available. Though no one knows exactly what causes rheumatoid arthritis, a good deal is known about what to do for it... Public hospitals in the United States do take an occasional rheumatic patient but seldom are they organised to use all the latest scientific knowledge."¹

The Medical Research Council have complained that although insulin has been proving its value in the hospitals for the past ten years, outside the deaths from diabetes show very little decrease. Prof. V. H. Mottram says that in 99 cases out of 100 the medical student sloughs his scientific training when he enters the wards—and few of the specialists in botany, zoology, physiology, &c., ever bother to relate their subject to the practice of medicine. Medical research is not exploited rapidly enough by the over-occupied medical practitioner, though it is industrially exploited by commerce.²

Nevertheless, certain groups have begun to pool statistical experience on these lines. An interesting example on a lower plane than doctors' case-records is found in an institution in America, financed by voluntary contributions, called "Vitality Records" (26, West 44th Street, New York). Anyone can help by completing their questionnaires, which cover not only the special cults to which people belong but also details about loose-fitting clothes, sleep, worry, perspiration. It is claimed by Prof. Irving Fisher and his associates, Dr. Alexis Carrel (author of "Man the Unknown") and Prof. E. V. McCallum, of Johns Hopkins University, "that by analysing thousands—perhaps a million—of such records, and by keeping in touch with these persons each year, a remarkable mass of new health knowledge, of the utmost importance to human welfare is being accumulated."³

THE MAN AND THE METHOD

My plea today, therefore, is that it shall be your ambition to be a unit contributor to great scientific induction. Please, I beg of you, keep up enough elementary mathematics to understand statistical methods, so that the safety of samples, the peril of small numbers, the normal curve of error, the standard deviation, and possibly the coefficient of correlation may mean something to you. For these are the common factors of scientific expression, the grammar or criteria of proof, the mental picture of the group, the total effect. It is wrong that you should not understand science *apply* it; it is a pity that you should stop at *applying* and not systematically record; for combined records are your contribution to scientific knowledge and the future of medicine.

The temptations to diffuse artistic personal medicine are many. Records and notes are a nuisance when you are pressed with human problems. Better to heal ten patients with no records than eight with full scientific study, you may well say. And indeed, the human aspect is always a compelling one, and science takes a back seat. Prontosil shows fine results in lowering mortality from the previous experience in the same hospital. But the claim to direct high correlation is rather obscured when it is seen that mortality has also

1. Kelly, F. C., *Forum*, 1938, p. 203.
The Frustration of Science, London, 1935 p. 95.

fallen elsewhere without it. Other causes are at work too. The scientific method of establishing correlation would be to keep a controlled experiment in the one establishment, by treating only every other case with the new drug, at random, and over a period testing the results of the two groups. But there comes the human problem. Who dare withhold from patient, because she happens to be the odd one for the control group, *any* chance that the treatment affords of recovery, and let her die without it, just to make a scientific comparison? For that patient is a human being, with a context of human sympathies and of lives surcharged with emotion.

The limitations of the scientific method in actual practice are thus obvious; but with them all, opportunity *does* remain. For the scientific method is not only inductive—it is deductive. In contradistinction to graduate study as above outlined, postgraduate study, as the medical man regards it, is what he gives himself according to his own plan after he has taken by his life task. He seeks no academic recognition and seldom troubles himself about new ideas. He converts his knowledge into understanding and his understanding into art and these fine expression for his own personality and capacity. He may go far in his profession and never have an original idea in his life. He need not even acquire any new knowledge. Most of us know far more facts than we can intelligently use.

THE BUSY MIND

I can hear your impatient exclamation that you have no time for all this—to keep your patients living and get your own living is the size of your job. It is so full that good things have to be pushed out to get good things in. As I once cabled to American friends demanding rooms in Gleneagles Hotel in August "Can only get more Americans in by turning Americans out." I do not pretend to know which school of psychology is now uppermost, but Spearman says "mental competition with the law of constant output rules our actual intellectual lives. The commencement of any mental activity causes other activity to cease, and vice versa. The law of constant output is thus stated: Every mind tends to keep its total simultaneous output constant in quantity, however varying in quality." The difficulty was more attractively and provocatively stated by a medical man who has done more than most for human well-being—Conan Doyle, with his champion therapeutic, Sherlock Holmes, in his very introduction to the public in "A Study in Scarlet." May I read a few lines? You will remember that Sherlock always had access to an extraordinary range of items of human knowledge in out of the way corners:—

"My surprise reached a climax, however, when I found incidentally that he was ignorant of the Copernican Theory and of the composition of the Solar System. That any civilised human being in this nineteenth century should not be aware that the earth travelled round the sun appeared to be to me such an extraordinary fact that I could hardly realise it. 'You appear to be astonished,' he said smiling at my expression of surprise. Now that I do know it I shall do my best to forget it."

"To forget it!"

"You see," he explained, "I consider that a man's brain originally is like a little empty attic, and you have to stock it with such furniture as you choose. A fool takes in all the lumber of every sort that he comes across, so that the knowledge which might be useful to him gets crowded out, or at best is jumbled up with a lot of other things, so that he has a difficulty in laying his hands upon it. Now the skilful workman is very careful indeed as to what he takes into his brain-attic. He will have nothing but the tools which may help him in doing his work, but of these he has a large assortment, and all in the most perfect order. It is a mistake to think that that little room has elastic walls and can distend to any extent. Depend upon it there comes a time when for every addition of knowledge you forget something that you knew before. It is of the highest importance, therefore: not to have useless facts elbowing out the useful ones."

"But the Solar System!" I protested.

"What the deuce is it to me?" he interrupted impatiently: "you say that we go round the Sun. If we went round the Moon it would not make a pennyworth of difference to me or to my work."

Now quite possibly the contemplation of the patient in his position in your scientific problem may detract a little from your bedside manner and the human touch. But I doubt it. I believe you will so strengthen your artistic human perception by your scientific conceptions that you will have a stronger inner sense. After a time the induction becomes the instinct, the reasoned rule sublimates into the sublimer guesswork. You are not being asked to carry a new load of facts so much as to acquire and maintain an additional "awareness"—an extra attitude of mind. William James once said: "I have no doubt whatever that most people live, whether physically, intellectually or morally, in a very restricted circle of their potential being. They make use of a very small portion of their possible consciousness, and of their soul's resources in general, much like a man who, out of his whole bodily organism, should get into a habit of using and moving only his little finger."

Have I been talking high-falutin? As Kelvin says, "We do not know much about anything until we have learned to measure it." To which you will add: and when we *have* measured it, perhaps its vital spirit has eluded us. Some of you will be cynical and will say in reply to my question, "Is medical practice science or art?" What the Oxford don did about logic—it is neither an art nor a science but a dodge. Canon Streeter said: We shall in no way disparage science because quality is excluded from its purview any more than we decry an ordnance because it can give us no idea of the view from Richmond Hill." In truth the doctor must have science and art as two blades of a pair of scissors—singly they are imperfect instruments, but together the mind uses them to cut into the fabric of the living unknown.

There are no grievances so irremediable as those which arise from a sense of inferiority complex or from the falling of the standard of self-respect. The only remedies are to give up the inferiority complex, and to cultivate an aggressive sense of self-respect. This is my message to the medical licentiates of India—D. V. Venkappa, President, All-India Medical Licentiates' Association.

Development of Public Medical Service in Great Britain

● Dr. K. S. Ray, M. A., B. Sc., M. B. Ch. B. (Edin.)
General Secretary, Indian Medical Association.

The public may be aware that the Government of England have brought medical service to the doors of the poor by inauguration of the National Health Insurance Act which makes insurance compulsory for persons whose income is below two hundred pounds per annum. The British Medical Association have further evolved a scheme for others who do not come under the ambit of the National Health Insurance Act but who cannot at the same time afford to pay the usual fees to the doctors. The scheme is rather novel and is based on the principle of private practice so that the patient can choose his own doctor. The advantage is that the Society which runs private medical service can advertise the collective usefulness of the various facilities offered to the patients which the individual doctor cannot do on grounds of medical ethics. The Indian Medical Association has also recommended the introduction of the Public Medical Service in different parts of India. It may not therefore be altogether out of place here to give a brief outline of the scheme as it is organised and practised in England under the aegis of the British Medical Association.

The Public Medical Service is an association of Medical practitioners within a defined area, constituted to organise the provision of medical attendance and medicine for the dependents of insured persons and others of a like economic status. Any duly registered medical practitioner practising within the area may become a member of the Service upon signing an undertaking to conform to its rules. There is a Committee which deals with all such matters as the appointment or dismissal of employees or agents of the service; makes all insurance arrangements for such employees and agents as may be necessary; effects arrangements with chemists and manages all the other affairs of the Service not required to be dealt with at a General Meeting. A member shall not conduct any private medical club; nor shall he hold any contributory contract appointment whatsoever, except with the consent of the Committee of the Service and where such consent is given a member shall not take, or continue to treat, any contributory contract patient at a lower rate or fee than prescribed in the rules.

Canvassing or advertising shall not be permitted by, or on behalf of, any individual member of the Service; but legitimate publicity may be given to the Service as a whole. A member shall not himself receive, or employ a collector to collect, subscriptions from contributory contract patients for services or benefits rendered under the Service. No member or other official employed in the Service is permitted in any way to influence any subscriber in favour of any particular practitioner on pain of immediate dismissal.

A subscriber is entitled to medical treatment and medicines under the Service. Subscribers are admitted after acceptance by a practitioner of his choice and after payment of an entrance fee. Persons actually suffering from illness at the time of their application for admission may be required to pay an emergency fee to entitle them

to immediate attention. The Service is available to the dependents of insured persons and, others of a like economic status. Should cases arise in which there may be doubt as to the eligibility of the applicant, they shall be referred to the Committee for its consideration and the decision of the Committee on the question of eligibility shall be final. If any subscriber shall in the opinion of the Committee cease to be eligible, his name shall be removed from the list of subscribers. Subscription rates may be either on a uniform basis, e. g., 3d. per week per person, with a maximum payment for a family, or they may be based on what may be described as a "tapering scale", e. g.,

5d. for one
8d. for two
10d. for three
1s. 0d. for four or more.

The subscriber's paying capacity obviously diminishes rapidly with an increasing number of dependents, and this consideration has made the tapering scale popular, the subscriber with one dependent paying a proportionately high subscription rate which goes to balance the comparatively low subscription rate of the subscriber with a large family. A rule might with advantage be included making it compulsory for every eligible member of a subscribing family to be included in the Public Medical Service. This prevents the Service being utilised for the ailing member of the family, and averages out the risk as far as the practitioner is concerned.

Except as provided in the Rules, a subscriber shall, on admission and at such other times as are provided therein, choose as his medical attendant a member of the Service who is willing to attend him, and shall be entitled to the services of such member only. The contract of the subscriber shall be with his medical attendant only, and not with the Service or the other members of the Service. The subscriber may change his medical attendant at any time, provided there are no arrears of subscription. The member in charge of a case may, on the ground of wilful disobedience or misconduct on the part of the subscriber, refuse further attendance, and shall in any such case forthwith report to the Committee. A subscriber, so long as his subscriptions are not in arrears, shall be entitled to receive from his medical attendant: (i) Each medical and surgical treatment as general practitioners as a class may be reasonably expected to provide. Attendance will be given at the surgery of his medical attendant or at the dispensary of the Service within the hours mentioned, and also when his condition requires it at his place of dwelling. In the case of an emergency the member will render whatever services are, having regard to the circumstances, in the best interests of the patient; (ii) All ordinary medicines and dressings for such wounds and other injuries as are treated by the medical attendant. Subscribers shall not be entitled, in consideration of their ordinary subscriptions to medical service in respect of Confinements, Vaccinations, Administra-

tion of a general anaesthetic, certificates and reports and to medical attendance in respect of:—

- (a) Operations requiring general anaesthetics
- (b) Operative dentistry.

PROCEDURE

The first step is for the local unit of the Association to call a meeting of all practitioners in the area. If a majority of those present and voting decides in favour of the establishment of a Public Medical Service, a small committee should draft a scheme suitable for the area, including subscription rates and arrangements for the administration of the proposed Service. This Committee should report to a further meeting called by the local British Medical Association unit but open to all practitioners in the area, and if a Scheme is approved a resolution should be passed to the effect that the proposed Service is in the public interest, and a date should be fixed for its initiation.

FINANCE

Capital will be required to initiate the Service and to cover the outlay needed for printing, postages, provision of a central office and for the first few weeks' salary of the staff, etc. This may be raised either by (a) a bank overdraft guaranteed by members of the Service, or (b) by a levy of say £ 5 which may be looked upon either as a loan repayable as and when funds permit, or as an entrance fee returnable on withdrawal from the Service. Members joining the Service after its inauguration may be required to pay a nonreturnable entrance fee of one or two guineas. Every partner or assistant in a firm must become a member of the Service, a certain amount of capital can be obtained if a small entrance fee is charged to subscribers. This should however be small, and not more than 1/- or 2/- with a maximum per family.

ADMINISTRATION

The efficient administration of the Service is a matter of vital importance, and the appointment or arrangement of the personnel of the lay staff must be carefully considered. According to the potential size of the Service it may be found necessary to arrange for (a) a whole time Secretary, (b) a part time Secretary, (c) a contract with a firm of accountants. The lay secretary or other administrator of the Service should be empowered to deal with correspondence and other matters relating to the business aspect of the Service. He should be assured of an adequate remuneration. The financial responsibilities of all lay staff, including collectors, should be covered by insurances for "fidelity bonds" and against loss of money in transit. Collectors are a very important unit in the Service, and they must be trustworthy, tactful and reliable. Collectors may be engaged either on a whole time or part time basis, the former method being preferable. Where the Collector is employed on a whole-time basis and is remunerated by commission, he must be allowed an area of sufficient size to ensure a reasonable remuneration.

The Public Medical Service thus provides, for those who cannot afford to pay a doctor's bill in the ordinary way, a general practitioner or family medical service in return for weekly contribution. The public have for economic reasons tended to seek from hospital outpatient departments, local authority clinics and health centres, many services which general practitioners are competent to give. A Public Medical Service makes it possible for them to obtain these services from their family doctor. It thus affords continuity of medical services and obviates overlapping and duplication.

Grievances of the District Board Rural Medical Officers, Punjab.

Dr. Dal Singh, Medical Officer, Mokandpur, led a deputation to the Hon'ble Minister of Education and presented a Memorandum on 27-10-38 in the course of which he said:

Medical Officers are an orphan lot in the service of the District Board with none to look to their interests, save the Civil Surgeon who being a Government Officer and not a District Board employee, is in some instances indifferent and in yet others helpless. Where the Civil Surgeon is not a member of the District Board the matters deteriorate still further as he is obliged to carry out whatever is imposed by District Board resolutions without either his consultation or advices in fact as such, the Civil Surgeons' Office is used only as via-media or an intermediary post office.

Truly speaking, Medical Officers have entirely to depend on their emoluments with little or no scope for private practice. Whilst the poor are unable to pay, the influential or the rich ones do not care to pay as they think that the very existence of the Medical Officers is at their pleasure.

Medical Officers entered service with the same terms and conditions as for the Sub-Assistant Surgeons in Government Service, the scale of pay offered them was Rs. 70-4-130-150-175 and they signed bonds of service accordingly. Various percentages of cuts in their pay ranging from 15% to 5% have been almost continuously imposed since 1931 and in these days there is 7½% cut in Jullundur District, etc., etc. Such cuts need immediate restoration.

In Jullundur District, increment of Rs. 4/- per mensem was stopped in 1931 and the same has not been restored as yet. This means a net loss of Rs. 48/- per annum as compared with the pay drawn by a Sub-Assistant Surgeon who never had a stoppage in increment i.e. so far Medical Officers have suffered Rs. 48/- multiplied by 8 years = Rs. 384/- and this loss accumulates as years pass on. The Medical Officers have received their provident fund less by 384 annas, i.e. the total loss comes to Rs. 408/-. If the increment be not restored then the loss to a Medical Officer with average period of service will be about Rs. 1,000/- in the end. Therefore this stoppage needs restoring immediately.

The year 1938 has been described by the Punjab Government as an year of Grace and some Rs. 55/- lacs were set apart for a special fund, but Medical Officers in Jullundur District had their pay deducted by about Rs. 100/- from the salaries drawn for January, February and March 1938. This is how the year 1938 augured for them, in spite of the fact that the Government restored 12½% cut on contributions towards Rural Dispensaries with effect from 1st April 1937.

Medicolegal practice is not allowed in certain districts i.e., Hoshiarpur, Karnal, etc. etc. A Medicolegal case has still to go to the far-off dispensary and in some instances at the risk of his very life. Does it not mean uncalled for hardship to the villagers? Admission or attendance in a dispensary quite close by, means practically no expenditure as every thing at home can be fetched there but his admission at a distance means not only a loss to him but also a great hindrance in the work of his kith and kin who have to travel long distances to attend their injured relative. When a private practitioner situated in or near the village can issue medicolegal certificate why debar the one who is in charge of a rural Dispensary?

(Continued at foot of page 149)

SERVICE NOTES

[As per Resolution No. 18 of Gauhati Conference, A. I. M. L. A., we are publishing below only the transfer and leave of such of the Sub-Assistant Surgeons in each province who are members of the Association. The numbers given against their names indicate their membership roll numbers—Ed. I. M. J.]

Punjab—May 1939

- 2054 Dr. Sadiq Ali Bokhari, General Duty, Civil Hospital, Amritsar, to Sukesar Dispensary, Shahpur District.
- 114 " Gopal Das, General duty, Civil Hospital, Multan to Canal Dispensary, Rashida, Multan District.
- 2642 " Murli Dhar, Canal Dispensary, Rashida, Multan District to Bhagtanwala Dispensary, Shahpur District.
- 1349 " Moti Singh, Malaudh Dispensary, Ludhiana District to Banga Dispensary, Jullundur District.
- 2661 " Ghulam Mustafa, General duty, Civil Hospital, Hissar, to General duty, Civil Hospital, Hansi, Hissar District.
- 3504 " Abdur Rashid, L. S. M. F. (Punjab), General duty, Civil Hospital, Amritsar—engaged as a temporary S. A. S.
- 2948 " Narindar Singh Bedi, Kosli Dispensary, Rohtak District to Canal Dispensary Binjhol, Karnal District.
- 165 " Ram Rakha, 2nd class Senior to Sham Churasi Dispy., Hoshiarpur District.
- 2941 " Nur Ahmad, on expiry of leave to General duty, Civil Hospital, Karnal.
- 881 " Balmokand, General duty, Punjab Mental Hospital, Lahore, to Punjab Mental Hospital, Lahore.
- 2608 " Rattan Chand, General duty, Civil Dispensary, Tohana, Hissar District to General duty, Civil Hospital, Hissar.

U. P.—May 1939

- 2875 Dr. Shiva Lal Dube, Sub-charge, Fyzabad, leave 16-5-'39 to 15-7-'39.
- 628 " Bhagwati Sahai, Bharthana, Etawah, leave 6-5-'39 to 5-7-'39.
- 2989 " Kashi Prasad Khare, T. B. Section, District Jail, Sultanpur, leave 21-5-'39 to 21-6-'39.
- 70 " Dewan Singh, Jwalapur, Saharanpur, leave 17-5-'39 to 16-7-'39.
- 1658 " D. N. Mukerji, Birdpur, Basti, leave 28-5-'39 to 27-6-'39.
- 1497 " A. S. Attrey, Reserve Duty, Gonda, leave 27-5-'39 to 26-6-'39.
- 1497 " A. S. Attrey, Nawabganj, Gonda, to Reserve duty, Gonda.
- 397 " Rikhab Chand, Jail and Police, Unao, to leave.

Bengal—15th to 30th April 1939

- 2211 Dr. Pramatha Nath Ghosh, R. M. O. Mitford Hospital Dacca, held charge of the Munshiganj Subdivision and dispensary on 5-4-'39.
- 2398 " Rakhraj Sanyal, Jail Hospital, Krishnagar, Nadia, held charge of the Kushtia Subdivision and dispensary on 4-4-'39.

ASSOCIATION NOTES

Proceedings printed below refer only to the Committees and Branches of the All-India Medical Licentiate's Association, unless otherwise stated.

Finance Committee

Resolution No. 125: This Committee re-considers its resolution No. 93 of 22-2-39 and amends as follows:

"Resolved that the annual subscription of the *Indian Medical Journal* for Burma be raised from Rs. 4 to Rs. 6. The excess of Rs. 2 charged being only the extra actual expenditure incurred on account of postage to Burma.

Standing Committee

"Resolved that a sum of Rs. 149-7-9 (Rupees One hundred and forty-nine, annas seven and pies nine) only be sanctioned towards the supplementary cost of the Adrema Addressing Machine for the office of the Managing Editor, *The Indian Medical Journal*, as per decision of the Standing Committee in pursuance to the Circular No. 8 of the General Secretary."

"Resolved that a sum of Rs. 33-11-3 (Rupees Thirty-three, annas eleven and pies three) only be sanctioned to Dr. Ahibushan Mukherjee, Provincial Secretary, Bengal, for his contingent bills from January to August 1938 as per decision of the Standing Committee in pursuance of the circular No. 9 of the General Secretary."

Hissar (Punjab): Meeting held on 14-5-1939. 16 doctors were present. Dr. Harjas Lal presided.

The minutes of the last meeting held on 12-3-39 read and confirmed.

(1) Item No. 2 of the last meeting: Communication of Dr. Ganpat Singh was explained. The house was of opinion that the matter should again be referred to the Provincial Secretary who should bring to the notice of the I. G. C. H. Punjab, the difficulties of the doctors in this connection in official capacity, and request for legitimate redress.

(2) Communication from the General Secretary regarding the D. O. course (Post-Graduate) started at the Amritsar Medical School was read out for the information of the house.

(3) Read letter No. 18 circular from the General Secretary. The house agreed to the proposal and passed the resolution unanimously as follows:

That this Committee reiterates the demands contained in the memorandum submitted to the I. G. C. H., Punjab, on 20-4-38 and to the Hon'ble Minister of Education on 27-10-38 by a deputation of the Punjab Provincial Branch of the A. I. M. L. Association and prays for an early sympathetic consideration to enquire general discontentment. Further resolved that copies of this resolution be forwarded to the Hon'ble Minister of Education and I. G. C. H., Punjab, for early action.

(4) Received circular letter No. 14 from the General Secretary and the house considered the situation. The house was of opinion, after brief discussion, that the demands asking the Government to take any action on the recommendations of the Civil Surgeons' Conference after referring the matter in its entirety to the Association may be considered as unreasonable. The house was however of opinion that the Provincial and the General Secretary may be asked to request the I. G. C. H., Punjab, to give a detailed reference regarding the last C. S. Conference on matters affecting the licentiate and then necessary action be taken to approach the Government through the I. G. C. H. on matters adversely affecting the licentiate class.

(5) Read letter from Dr. Piyare Lal, M. O., Rori, to the Hon. Secretary of the above Branch on the subject of T. A. granted by the courts to the rural medical officer and resolved that the District Magistrate be requested to allow.

T. A. to the rural medical officer for court attendance according to the T. A. rules governing the Provincial cadre as the present rate allowed to them in majority of instances does not even cover the actual expenditure.

(6) Resolved "that this Committee does not view favourably the recent order of the Government allowing the Assistant Surgeons in charge of Tahsil hospitals to inspect other dispensaries in their jurisdiction inasmuch as it is very likely to lead to controversies and therefore requests that only the Civil Surgeons should be the inspecting officers as they only are the administrative heads of the department in the district.

(7) In consideration of the nature of the duty at the famine relief camps, scarcity and dearth of provisions and unhealthy circumstances, the Government be requested through the I. G. C. H., Punjab, to allow special duty allowance to the famine doctors (as in the case of other special duty) as provided under page 281 of the *Punjab Medical Manual*. That the copies of the above be forwarded to the I. G. C. H., Punjab, Provincial Secretary and General Secretary.

(8) Resolved (a) that in view of the general discontent present and the pressing need felt by the rural medical officers of the district with regard to their transfers, the authorities concerned be requested to evolve a definite scheme likely to serve the administrative purpose of public service, to maintain discipline and to meet the legitimate needs of the officers concerned.

(b) that this Branch and its representatives are prepared to offer their services and suggestions for the purpose of co-operation.

(c) that the copies be sent to the Civil Surgeon, Hissar, I. G. C. H., Punjab, and the Chairman, D. B. Hissar.

(9) The postage account of the Branch was checked and passed. Resolved that the same be forwarded to the General Secretary along with the bill for typing charges for favour of early payment.

(10) Resolved that this Branch tenders its respectful congratulations to Col. P. B. Bharucha, O.B.E., D.S.O., I.M.S. on his appointment as the I.G.C.H., Punjab.

(11) That the Branch is confident that the task of introducing reforms in the standard of medical education at the Amritsar Medical School and the upliftment of the class of medical licentiate would be zealously taken up by him.

(12) Under the presidentship of the Civil Surgeon, Hissar, discussion on nutritional problems of the Hissar famine-stricken people was held. Doctors working at the famine relief camps gave their observations and experience. It was the unanimous experience that the administration of cod liver oil had served a very useful purpose in curing the conditions of deficiency of vitamins A and D, as night blindness and stunted growth.

Delhi (Punjab): Meeting held on 25-6-39.

This meeting strongly condemns the remarks of Dr. Jehangir J. Cursetji, C.M.O., Retd., The Oriental Life Assurance Co., as published in the *"Insurance World"* against the licentiate of the State Medical Faculty and its equivalent qualifications.

This meeting requests the Punjab Government that the considered opinion of the Provincial Branch, A.I.M.L. Association may kindly be obtained before any changes are made as a result of the Civil Surgeons' Conference recently held at Lahore.

This meeting requests the I.G.C.H., Punjab, and the Hon'ble Minister for Education, Punjab, to expedite an early and sympathetic consideration at the hands of the Punjab Govt. regarding amelioration of grievances contained in the printed memorandum which have already been explained by the deputation in Nov. 1938, as the delay is causing great discontentment amongst the medical licentiate and the rural medical officers.

This meeting highly appreciates the raising of the standard of medical education in the Medical School, Amritsar,

in conformity with the requirements as laid down by the Medical Council of India.

This meeting congratulates Col. P. B. Bharucha, O.B.E., D.S.O., I.M.S. on his appointment as I.G.C.H., Punjab and appeals to him that the task of introducing reforms in the standard of medical education at the Amritsar Medical School and the upliftment of the class of medical licentiate, so zealously taken up by his predecessor, Col. G.G. Jolly, C.I.E. I.M.S. would be given further impetus by him till the desired results are achieved.

Madras: Meeting held on 24-5-'39.

Resolutions: "While the Association sympathises with the plight of foreign medical refugees it is however of the opinion that they, whether properly qualified or otherwise, holding registrable qualifications or not, should not be allowed to enter into private practice in which competition is now very keen and in which local doctors are finding their earnings already shrinking, due partly to the economic conditions of the people and partly to the sudden and what appears to this Association, unhelpful reorganisation of the Medical department in this province recently inaugurated by the provincial government."

"The Association deplors the remarks of Dr. J. J. Cursetji against the medical licentiate published in the *Insurance World* as they are unethical, vindictive and not based on true facts. This Association therefore requests the Bombay Medical Council to take disciplinary action against the said doctor who is registered in the said Council, as in the opinion of this Association, it is a definite breach of ethics to say or write in the lay press that a particular set of registered medical practitioners are unfit to examine insurance cases medically, or to function otherwise as duly qualified medical men."

The Honorary Secretary had been authorised to correspond with all the Associations regarding the problem of Jewish Medical Refugees.

Prior to the business meeting, Dr. Nathamuni addressed on the "Recent advances in the treatment of tuberculosis."

(Continued from page 147)

The transfer of certain dispensaries to the health Department has very adversely affected the efficiency of Medical Officers. The Medical Officers of Health have no hospitals under their charge where they may keep in touch with medical or surgical subjects, and hence cannot satisfactorily guide the institutions concerned with curative aspect. The Civil Surgeon with the Headquarters and other hospitals at his disposal is the fittest to discharge such duties of management of dispensaries. The amalgamation of the Health and Medical Departments is not an ideal combination.

During the regime of the former Government it used to be said that the District Boards and Municipalities are steps towards the progress of Home Rule and thus the vesting of such authority to the District Boards was regarded as a step towards advance. But the Government gives cent per cent expenditure for such dispensary i.e., Rs. 2,500/- for each Rural Dispensary; why then hand these over to District Boards and undermine the efficiency of these Dispensaries?

Medical Officers, Sir, under District Boards are discontented in the matter of pay, etc. The disciplinary control of these dispensaries is under Civil Surgeons, almost cent per cent funds are provided from Government treasury and yet strange enough these are known as purely District Board Rural Dispensaries, very little if any is at present spent by District Boards.

In view of the lesson already derived by the education department particularly in its primary classes, it would be in the fitness of things to take these dispensaries under direct charge of Government rather than keep on experimenting any more.

Meeting of the Managing Committee held on 4-6-39 with Dr. B. V. Venkappa in the chair. 4 members were present. Drs. K. Rama Rao and P. R. Kulasekharan entertained the members with light refreshment.

The minutes of the last general body meeting held on 24-5-39 were read and confirmed.

The accounts for the months of April and May '39 for Rs. 6-11-0 and Rs. 16-6-0 were unanimously passed.

Letter from the Remington Typewriter Co., was read before the house. And it was resolved to authorise the Secretary to purchase a typewriter, new or old, on an easy instalment basis. The cost is to be met from the local fund raised by the advertisements in the "notice for Clinical or other meetings."

Under the heading *Corporation Medical Officers* the Secretary placed before the house all the letters and the reminders sent to the Commissioner, Corporation of Madras, pointing out the various disabilities of the Medical licentiates in the Madras Corporation and also the correspondence between Dr. P. S. Srinivasan, M. L. A., Conjeevaram, and the Secretary regarding a deputation to the Honorable Dr. T. S. S. Rajan, Minister for Public Health.

The house unanimously proposed and resolved that a memorandum of the grievance of the Medical licentiates in the Corporation service be prepared by the Secretary and he be empowered to lead a deputation to the Honorable Dr. T. S. S. Rajan, Minister for Public Health.

Resolved to convey the congratulations of the Association to Drs. Kandaswami Pillai and M. S. Kuppaswami Iyer on their being promoted as Assistant Surgeons.

Resolved to authorise the Secretary to give honorarium to the extent of Rs. 5 to the individual or individuals who does or do service for the Association, from the local fund.

Tinsukia (Assam): Monthly meeting held on 12-3-39 with Dr. G. C. Sil in the chair. 10 doctors were present.

Proceedings of the last meeting read and confirmed.

This meeting places on record its great sorrow at the sad death of the undenoted members of the Association and authorises the Secretary to convey their family its sincere condolences: Drs. S. L. Sharma of Aligarh, U. P. on 4-1-39 and J. N. Das of Assam Medical Service (Junior) of Mangaldoi on 29-1-39.

Dr. S. C. Ganguli of Dhalakhat T. E. read a case note on "long continuous fever." All members took part in the discussion.

Monthly meeting held on 4-6-39 with Dr. A. C. De in the chair. 8 members were present.

Minutes of the last meeting read and confirmed.

Branch monthly accounts for the months of March, April and May 1939 passed.

General Secretary circular No. 17 read and the Secretary was advised to write to the General Secretary on the subject.

Read all correspondences from the Provincial Secretary and filed.

Read the proceedings No. 4 of Tingri valley branch and the Secretary is advised to intimate the views of the members of the Branch on the proposed scheme of 'tea estate medical service.'

A discussion on the "opium addicts' treatment" was opened by Dr. S. C. Baruah and all members took part in it.

Dr. S. N. Dutta illustrated a few interesting cases to the members.

Gauhati (Assam): Monthly meeting held on 10-6-39 with Dr. Miss L. Bhuyan in the chair.

Minutes of the last meetings were read, discussed and passed.

Contingent bill for April and May 1939 passed.

The members of the above Branch record their deep sense of pleasure at the most deserving award of the Kaiser-i-Hind medal to Dr. Binod Chandra De, S. A. S., attached to His Excellency the Governor's staff and offer their most sincere congratulation to him for being so honoured.

That the members request Dr. G. S. Das, Secretary of the R. C. of the last 29th annual conference to submit the audited account of the conference for general information of the members and subscribers as early as possible.

Read letter from the Provincial Secretary, Assam, which informs that (a) a deputation consisting of Drs. G. S. Das, B. Ganguly, and B. Dey waited on the Honorable Minister, Medical and Public Health, on the morning of 9th May '39 representing our grievances regarding the pay, prospects and promotion of the S. A. S., Assam. The Honorable Minister has promised to consider the matter favourably though owing to the ill-health of the Premier the deputationists could not wait on him, (b) that our proposal for raising the standard of the B. W. Medical School has been accepted by the Assam Medical Council.

That this Branch requests Dr. G. S. Das, the former Secretary, to hand over the balance of Rs. 9-8-9 of the Branch account, still lying with him, to the present Secretary of the Branch.

There was some interesting discussion about the sudden outbreak of malignant malarial infection in Gauhati town and anaemia—its modern conception and treatment.

Tingri Valley (Assam): Proceedings No. 6. Meeting held on 11-5-1939 with Dr. D. D. Sarma Baruah in the chair. 10 members were present.

Proceedings of the last meeting were read and confirmed.

Resolved that the contingent bills for the months of April and May '39 amounting to Rs. 1-4-3 and Rs. 12-9 respectively be passed.

Circular No. 17 from the General Secretary was considered and the following resolution passed unanimously:

"The Tingri Valley Branch protests against and resents the unjust and unjustifiable remarks of Dr. J. J. Cursetji against medical licentiates contained in the *Insurance World*, Feb. 39, Pp. 265-67 and informs the insurance companies in this country that Dr. Cursetji's opinions are not those of the organised profession, as will be evidenced from previous resolutions on this subject by both the All India Medical Licentiates' Association and the Indian Medical Association."

The Prov. Secretary's letters were read and discussed. All the members were disappointed to hear the reply given by the Director of Public Health, Assam, with reference to the resolution No. 15 of the last Gauhati Conference.

The news that the Provincial Secretary arranged a deputation which waited on the Hon'ble Minister of Medical and P.H. regarding the pay and prospects of S. A. S. and that the Assam Medical Council has accepted the proposal of raising the standard of B.W. Medical School by increasing the course of studies to five years, were received by the members with great pleasure.

Dr. K. P. Hare read out some selected parts of his valuable paper on "Anaemia in pregnancy in tea garden labourers" based on an extensive research carried out by him in this area.

Dr. K. C. Dutta summed up a short history of the original work done on this subject in India and pointed out that Dr. Hare's research is in many respects a pioneer work.

Nadia (Bengal): A District Conference of A.I.M.L., Association was held at Majdia on 27-5-39 with Dr. Phani Bhushan Pathak in the chair. Large number of licentiates attended. Dr. Kulajaranjan Ray, Secretary, Nadia Branch, gave a vivid description about the working of the Association for the last 12 years which was much appreciated by all present. Dr. A. C. Mozumder—Chairman, Reception Committee, welcomed the guests and gave a nice entertainment. Drs. D. Adhikary, Secretary, Nadia District Board Medical Association, and S. K. Ganguly, Calcutta Corporation, made speeches about the utility of this Association.

Office-bearers of the Reception Committee for the 7th Bengal Provincial Licentiates' Conference and the Scientific Exhibition at Krishnagar during the next Easter holidays were elected.

The following resolutions were moved and passed unanimously:

(a) That uniform standard of medical education all over India, be established early.

(b) That the course of the medical schools be raised from 1 to 5 years.

(c) That the licentiate medical practitioners be recognised by the All India Medical Council.

(d) That the Dist. Board authorities be requested to raise the pay and prospects of the medical subordinates serving under them, and that a sub-committee be formed to arrange a deputation to wait on the Chairman, D.B., for this purpose with Drs. P. Pathak, H. Sen, K. Ray, S. K. Ganguly, J. N. Raha, D. Adhikary, A. C. Mojumder and Shamsul Haque as deputationists with powers to co-opt if necessary.

Monthly meeting held on 12-6-39. 9 members were present. Proceedings of the last meeting were read and confirmed.

Copy of the resolutions passed at the 6th Bengal Provincial Conference of the A.I.M.L. Assn. held at Burdwan were placed on the table and discussed.

It is unanimously resolved that a draft letter addressing all the medical licentiates of this district be printed and circulated by post regarding the proposed next Prov. Conference at Krishnagar, Nadia.

It is resolved that a supplementary budget of Rs. 10 be sanctioned for the expense of postage, etc., for issuing letters to all the medical licentiates of this district for becoming members of the Mother Assn. and to ensure the success of the next Prov. Conference at Krishnagar.

Accounts for the month of May, 39 were examined and passed unanimously.

Scientific discussions were made by the members on some tropical diseases.

24 Parg. (Bengal): A special meeting held on 21-5-39 with Dr. Sarat Sashi Sircar, L.M.F. in the chair. 5 members were present.

The minutes of the last meeting were read and confirmed.

Resolved that the following office-bearers be elected for the current year: Drs. H. C. Paul-President, S. S. Sircar-Vice-President, L. M. Dutt-Hon. Secretary & Treasurer, K. K. Dutt Jt. Hon. Secretary, S. N. De-Auditor. *Managing Committee:* Drs. N. B. Rai Choudhry, K. L. Paul, B. M. Paul, A. T. Chakravarty.

Resolved that an annual subscription of Rs. 3 be paid to the Branch Assn. by each member.

Resolved that the next meeting of the Branch be held on 18-6-39 next. The time and place for the meeting be settled by the Secretary accordingly.

Calcutta (Bengal): Resolution passed at a meeting of the Executive Committee, Calcutta Branch, held on 24-5-39: "Resolved that this meeting held on 24-5-39 protests against the unjust and unjustifiable remarks of Dr. J. J. Cursetji against the medical licentiates published in the *Insurance World* of Feb. 39 issue, Pp. 265-67 and informs the insurance companies in the country that Dr. Cursetji's opinions are not those of the organised profession, as will be evidenced from previous resolutions on this subject by both the A.I.M.L. Assn. and the I.M. Assn."

Chittagong (Bengal): A monthly meeting held on 19-6-39 with Dr. J. C. Chakravarty in the chair.

Proceedings of the last meeting were read and confirmed. Circular No. 6 & 7 from the G. S. was read and filed.

Accounts up to 31-5-39 were read and passed.

Lakhimpur-Kheri (U.P.): A meeting held on 16-8-39 with D. Peary Lal Gupta in the chair. The following resolution was unanimously adopted:

"Resolved that the above Branch congratulates Rai Sahib Dr. Lekh Raj Singh, F.S.M.F., P.M.S., M.O., I/C. Sadar Hospital, Kheri, on the conferment of the well-deserved title of Rai Bahadur on him in recognition of his valuable public services and respectfully thanks the Government for having so very kindly recognised him."

ALL-INDIA MEDICAL LICENTIATES' ASSOCIATION FAMILY FUND.

Statement of Accounts for the months of Oct., Nov., Decr. 1938, Jan. & Feb. 1939.

RECEIPTS.	Octr. 1938	Novr. 1938	Decr. 1938	Jan. 1939	Feb. 1939	PAYMENTS.	Octr. 1938	Novr. 1938	Decr. 1938	Jan. 1939	Feb. 1939
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Balance brought forward from last month's a/c	83 10 0	23 1 0	367 0 3	308 0 3	458 9 0	Office Establishment	...	45 0 0	25 0 0	...	...
By credit to call	...	...	48 0 0	...	...	Postage	5 0 0	2 13 9	20 0 0	19 7 3	...
No. 131-178	...	...	1 0 0	...	2 0 0	Stationery	...	...	0 10 0	...	...
No. 179	...	...	1 0 0	...	8 0 0	Printing charges	...	...	42 6 0	...	...
" 180	...	...	1 0 0	...	4 0 0	M.O. Commission	...	...	1 8 0	...	...
" 181	...	...	1 0 0	...	4 0 0	Miscellaneous	7 13 0	2 0 0	...	...	...
" 182	1 0 0	1 0 0	2 0 0	...	3 0 0	charges	...	...	145 7 0	...	...
" 183	1 0 0	2 0 0	2 0 0	...	3 0 0	Deaths calls paid	...	...	...	...	...
" 184	1 0 0	2 0 0	3 0 0	...	5 0 0	Deposited in P.O.	225 0 0	...	...	...	...
" 185	...	2 0 0	3 8 0	...	4 0 0	Savings Bank...	...	...	...	...	...
" 186	...	4 0 0	5 0 0	...	4 0 0	Advance to Dr.	...	48. 5 0	...	...	...
" 187	11 4 0	14 0 0	7 0 0	5 0 0	7 0 0	G. V. Motiwale	...	...	...	...	...
" 188	13 8 0	17 0 0	8 0 0	6 0 0	7 0 0	Advance to Dr.	...	500 0 0	...	...	...
" 189	58 0 0	69 0 0	24 0 0	21 0 0	12 0 0	Sarangapani ...	...	...	6 0 0	...	...
" 190	62 8 0	73 0 0	25 0 0	22 0 0	12 0 0	Furniture	...	...	2 1 0	...	...
" 191	...	...	24 0 0	52 0 0	66 0 0	Rly. Freight	...	...	...	...	...
" 192	...	...	...	...	...						
To further calls in advance	45 0 0	43 12 0	25 0 0	52 8 0	10 0 0						
" deposit	...	...	8 0 0	...	...						
" admission fees	...	13 0 0	...	10 0 0	...						
" withdrawal from P.O.	...	...	...	...	...						
" Savings Bank...	...	500 0 0	...	...	...						
" cost of certificate	...	0 8 0	0 8 0	0 8 0	...						
" cash received...	...	200 14 0	...	...	...						
" suspense	90 0 0	...	...	...	...						
	260 14 0	965 3 0	551 0 3	478 9 3	804 9 0						
						Rs. ...	260 14 0	965 3 0	551 0 3	478 9 3	804 9 0

123743

pulmonary tuberculosis usually begins suddenly with exudative subapical or infracavicular lesions, and it is a reinfection phenomenon, and represents the incipient stage of the disease in about 50% of cases. (2) As a result of healing of a previous subapical lesion and its spread to the apex it becomes apical in location. (3) Lesions far advanced in extent and excavation develop within less than six months, and processes leading to the above results are associated with acute symptoms.

PHYSICAL SIGNS

It is perhaps unnecessary to emphasise that most favourable conditions are necessary to conduct proper physical examination. I have already laid stress on the knowledge of the physiology of the lung and the anatomy of the relation of lymphatic glands. The first thing to note is the history. The patient may be a child or an adult. A child's history may be that without any apparent cause it shows signs of fatigue. It is either underweight or does not gain weight in a normal way; is listless; lacks appetite, restless and irritable. There is intermittent cough with transitory attacks of cold in head. Cough is dry and unproductive, and is due to pressure of enlarged glands on bronchi and not due to bronchitis. Local sweating is common. Temperature is usually normal with occasional rise, on unusual exertion, to 99.6° or 100°F. It becomes normal on rest. The child is ill-nourished with a pale and stretched skin and atrophied, softened, and bent bones. Such a case is often disposed of as one of marasmus in a busy outdoor clinic. Its eyes are sunken. Its eyelashes are long and there may be tuberculides present on the body. There is expiratory dyspnoea. Lungs show no signs though usually x-ray reveals the presence of enlarged tracheo-bronchial glands. An adult may turn up with a history of general good health previously, except perhaps of having passed through the usual children's ailments such as measles, whooping cough, etc. For the last two or four months he has been getting uncomfortably tired at his work. There is cough which was dry and hacking to begin with and which is now becoming productive to an extent of a few drachms daily. Occasionally there is sharp pleuritic pain in the upper part of one or both lungs. Towards evening he feels feverish and he may have had couple of attacks of hæmoptysis sometime ago. He complains of anorexia, dyspepsia, flatulence, constipation or diarrhoea and insomnia; sometimes he might have had peripheral neuritis and various other neurasthenic phenomena. A woman would

complain of amenorrhoea in addition to the above. Asked as to how the above complaints began he may give history of a bad cold or laryngeal hoarseness, hæmoptysis, and attack of pleurisy or pneumonia. On inspection there is some pallor and anxiety; loss of weight, pale skin, long eyelashes and lustreless hair. There is deficient movement below the clavicle and there is a droop of the same shoulder. There is flattening and wasting of trapezius. In early cases there may be only a history of debility, indigestion, loss of weight but no special physical signs. Positive X-ray examination and tuberculin test may be the only evidences. In some cases the only symptom may be hæmoptysis, and physical signs develop months or years later. The writer has a case under observation for the last 4 years. He had hæmoptysis twice but no physical signs have yet developed. When physical signs are discoverable they are as follows in various stages:

I. *Early Stage*: (1) Fine crackling rales at the apex of one lung heard only with or after a cough and at the end of inspiration. A single persistent rale is important. (2) A slight diminution in the intensity of breath sound and respiratory murmur with or without high pitched inspiration.

II. *Moderately advanced stage*: There is considerable amount of consolidation which is easily recognised, and specially so if the lesion is at the left apex. On inspection the chest is well-formed but there is late expansion of the diseased side. On palpation the vocal fremitus is increased. On percussion there is slight dullness and increased resistance. There is increase in intensity of spoken and whispered voice. On auscultation breathing is of bronchovesicular type. The heart sounds under clavicle are abnormally loud. Inspiration is weak, expiration is vesicular and there may be cog-wheel inspiration with prolonged vesicular or jerky expiration. There may or may not be any adventitious sound present or there may be a few small rhonchi or fine crackling or bubbling rales heard with first few breaths or with inspiration immediately on coughing. Sharp crackling rales indicate active disease. Coarse and irregular breath sound with fine rales may be a constant picture in other cases. All the above or a few signs with fever, loss of weight, positive tuberculin reaction, positive x-ray picture establish the presence of the disease.

III. *Advanced phthisis*: Here physical signs vary according to the various secondary changes. The patient is pale, emaciated and

Unchanged in a changing world.

The present age of social enlightenment is responsible for many changes and today the Medical Profession is expected to give advice upon matters which embrace a wider sphere.

When conditions indicate that further pregnancy should be avoided temporarily or even permanently it is always safe to prescribe RENDELLS.

This is the one contraceptive which for the past fifty years has been used under all circumstances and conditions with complete success.

Even apart from the complete dependability of Rendells the ease of securing supplies at a moderate cost is an advantage appreciated by all patients.

Full Medical Literature sent on request

W. J. RENDELL LTD.

HARDWICK HOUSE
161-165 ROSEBERY AVENUE
LONDON E.C.1

RENDELLS

INDIAN HEALTH INSTITUTE & LABORATORY, LTD.

AGAIN FOR THE FIRST TIME IN INDIA

As a result of continuous laborious research, we have been able to manufacture in

COMMERCIAL SCALE &

ACCOMMODATIVE COST
Our Popular DIASTIN LIQUID has now found its kin
DIASTIN POWDER

A CONCERN THAT IS MEDICAL MAN'S VERY OWN

Office Laboratory :

5-2, Beliaghata Main Road,
CALCUTTA.

→
DIASTIN POWDER
Aspergillus Diastase
in
Stable Powder Form

The Most Active Digestant
of Starchy Foods.

Madras Depot :

156, Broadway,
MADRAS.

A sure, definite, cent per cent, sovereign remedy against any kind of Corneal Opacity (a Nabula, a Macula or even Leucoma) of any size, shape or duration whatsoever.

★
Used by 19,000 people for more than 22 years and is called as "MIRACLE" in the Modern Science

★
"OPACITINE" (REGISTERED)

Prices:
Large Phial Rs. 10 or Sh. 20
Medium Phial Rs. 5 or Sh. 10
Small Phial Rs. 2-8-0 or Sh. 5 — (Posage Extra)

(NO FREE SAMPLE)
S. KRISHNA LABORATORIES (Regd.)
105, Railway Road, PASBUR (Punjab).

FILARIASIS

SPECIFIC CURE BY ROSBAY TREATMENT (oral or injection). The only medicine hitherto successful. It does not contain Arsenic, Antimony or Vaccine. Absolutely harmless. Many radically cured.

Apply for free literature to:

Dr. A. T. Paul, Specialist in Filariasis
60, Boloram De Street, CALCUTTA

Sirop THIO-CALCIN

(Plain)

A Super Calcium Tonic & Cough Specific
containing:

Pot. Sulpho Guaiacolate	Grs. 20
Assimilable Calcium	" 30
Glycerine, Orange Juice, Syrup etc.	Oz. 1

ALSO WITH

Vitamins A & D — — Ephedrine

E. M. H.

(Ethyl Morphine Hydrochlor)

When prescribing Sirop Thio-Calcin for Diabetics, please specify Sirop Thio-Calcin (Diabetes) to ensure a sugar-free preparation.

AVAILABLE AT ALL CHEMISTS AND STORES
For literature and particulars please send your professional card to:

THIO-CALCIN CO.,

Mylapore,

::

MADRAS

Madras Agents.—Dadha & Co., P.O. Box No. 541.

Bombay " —P.M. Zaveri & Co., Princess St.

Calcutta " — do 2, Portuguese Church

BEWARE OF



IMITATIONS

feverish. His fingers may be clubbed and he may have myoedema (undue irritability of muscles).

Consolidation generally begins at one apex or just below it and extends as far as the 4th in front in a relatively short time. Below that, the process is very slow or it may never spread. The movement is limited. Vocal fremitus is greatly increased and there is sense of increased resistance. There is marked dullness verging on to flatness. Pulmonary resonance is definitely diminished. The breathing is feeble, or loud broncho-vesicular or bronchial or even tubular in acute caseous cases. Adventitious sounds may be absent but usually are heard as fine or medium crackling or coarse rales with inspiration, especially after coughing.

Excavation generally occurs in almost all cases of advanced tuberculosis. It is difficult to recognise it without the x-ray. The chest wall is flat, shoulder girdle is wasted, movement is diminished and vocal fremitus is increased. There is cracked-pot resonance. Breathing is either bronchial, broncho-cavernous or amphoric. With dry cavity, medium crackling or coarse gurgling rales are heard over a large cavity. There may be metallic tinkling or amphoric echo heard.

Fibrosis is a slow process with little or no breaking down. There is much fibrotic thickening especially around the bronchi. The chest is asymmetrical with compensatory scoliosis or kyphoscoliosis. The movement is much diminished from the affected side. Percussion note is dull unless cavities are present. Breath sounds are weak and distant. There may be fine or medium rales of 'sticky' or metallic character. But actually lesions are not so clean-cut and defined. In a case of some duration different stages of the disease may be found in the same individual. Thus infiltration, consolidation, excavation and fibrosis may be present in different parts of a lobe or in different lobes of a lung.

Hilar tuberculosis is recognised by the presence of constitutional symptoms as fever, prostration, digestive disturbances, and loss of weight and positive x-ray findings. Predominant pleural thickening, emphysema and anomalous distribution of lesions also occur.

Acute pulmonary tuberculosis otherwise known as galloping phthisis runs a very rapid course. X-ray shows large miliary tubercles spread all over the lungs.

SYMPTOMS

(1) Pulmonary symptoms consist of catarrh, expectoration, pleurisy and cyanosis.

(2) Reflex symptoms are pain, cough, and laryngeal irritation. Cough may be dry or productive.

(3) Toxic symptoms are malaise, tachycardia, pyrexia, loss of weight, anaemia and night sweats.

(4) Gastric symptoms show themselves as anorexia, dyspepsia, flatulence, constipation or diarrhoea.

(5) Genito-urinary symptoms often complicate the picture with amenorrhoea (in women), albuminuria, diabetes and true nephritis.

(6) Nervous symptoms are neurasthenia, insomnia and peripheral neuritis.

In children the tubercular process is mainly confined to the intrathoracic glands, at least in the first instance and the symptoms are:

(1) *Emaciation*: The child does not gain in weight in spite of normal conditions of nutrition and care.

(2) *Fever*: In healthy child, temperature ranges between 98°8 to 99°8. Any rise above this should be considered pathological and if no other cause to explain this be discovered we should think of tuberculosis. Fluctuation in temperature is much more common in children than in adults. The child with the infection is flushed, has anorexia, feels languid and tired especially in the evening.

(3) *Night sweats* do not have the same significance in children as in adults. Even non-tuberculous children often perspire during the night.

(4) *Cough* is a sign of active tuberculosis in children. It is generally non-productive being due to pressure of intrathoracic glands on the tracheo-bronchial tree. The tumified glands subside in course of time, become small and cough disappears. When cough lasts for more than one month and no other cause is discovered for it, it is usually tubercular. In children over 3 years of age, presence of cough has a great significance along with other symptoms of the disease. Tuberculosis is rare in children with hypertrophy of lymphoid tissue of nasopharynx. Bronchiectasis is a

fairly common complication of cough in children.

Tuberculosis in the aged does not differ from the one in adults except in some pathological processes as already mentioned. There is more fibrosis and bronchiectatic cavitation. The disease is gradually progressive.

Description of physical signs and symptoms will not be complete unless their limitations are clearly pointed out, and other methods of examination given a passing mention. There is no doubt that some experienced physicians can by clinical methods alone achieve a remarkable degree of accuracy in diagnosis of pulmonary tuberculosis. Their clinical instinct and experience aided by their careful and detailed examination of each case establish the diagnosis beyond any shadow of doubt. Unfortunately such gifted men are few. Therefore routine x-ray and bacteriological examinations are desirable where a definite diagnosis by ordinary clinical methods cannot easily be made by a practitioner. In cases where physical signs are slight or absent, valuable time is lost in attempting to discover the undiscoverable by ordinary clinical methods. It is known too well that x-ray examination frequently reveals shadows in the absence of any physical signs whatever. Yet the regular x-ray examination is of great help in enabling a physician to check his physical signs and it is surprising how often they are found to be not in accordance with the findings of the x-rays. The practice of x-raying the same patient at intervals is of great value in the study of "living pathology" and in following the course of a case. Thus the formation of cavity, fibrosis and calcification is followed by serial radiography in a manner difficult if not impossible by ordinary clinical methods. With all these advantages of x-ray examination there is no doubt, and it is a great encouragement to the average clinician, that pulmonary tuberculosis still reveals itself by physical signs and symptoms. It must be clearly understood that inspection, palpation, percussion and auscultation are not replaced but only reinforced by a skiagram of the chest. Accurate diagnosis then depends upon a careful weighing of all the available evidences including history, clinical, laboratory and x-ray examinations. In this connection the judgment of Lord Justice Grace of England in the case of "Connolly *versus* Rubra" makes an interesting reading. He is said to have remarked:

"Tuberculosis is one of many diseases with which a general practitioner commonly has to deal. If the doctor

has any doubt whether or no there are signs of tuberculosis, it is his obvious duty to make further examinations to resolve that doubt and to make it clear that nothing further could be done for the patient. A doctor who is not over-confident of his own judgment will when he finds himself in a difficulty call an expert and decide according to the expert's advice. To enable the expert's opinion to be of value it is not enough to do what Dr. Rubra did, at a later date, namely, to take one specimen of sputum and be content with that if the result is negative. He must take many specimens of sputum and in addition he ought to have an x-ray examination and to watch the patient to see whether he is progressing or going back as time goes on."

Reluctance or failure to use x-ray even when available certainly results in wasting of useful time; sometimes the case is never diagnosed. Again there are certain non-tuberculous conditions such as bronchiectasis which a clinician may label as tuberculosis and prove otherwise by x-ray. It must however be noted that there is also a great danger of an abuse of x-ray by placing too much reliance on this otherwise useful method by those who fail to utilise the time honoured methods of physical and laboratory examinations. X-ray appearances in cancer, tuberculosis, and silicosis of lungs are at times indistinguishable. Fluid shows an opacity as well as a thickened pleura. It may even be said that in some respects radiology tends to make the diagnosis of chest diseases more difficult. It demands experience and judgment not to confuse shadows of bronchi and blood vessels.

A RESPIRATORY AND CIRCULATORY STIMULANT

'Nicamide' Nicotinic Acid Diethylamide, a powerful respiratory and circulatory stimulant, is prepared by Burroughs Wellcome & Co., Snow Hill Buildings, London, E. C. 1., and is available to the medical profession as a 25 per cent solution for oral administration, in bottles of 15 c.c. and 100 c.c. and as 'Hypoloid', 'Nicamide', a 25 per cent solution for intravenous or intramuscular injection in ampoules of 2 c.c. and 5 c.c. Following the administration of 'Nicamide', depth and frequency of respiration are stimulated, and the force of cardiac contraction is increased. The drug causes a rise in blood pressure probably brought about by reflex stimulation of the vasomotor centre through the carotid sinus. 'Nicamide' acts effectively either by mouth or by injection. The indications for the use of 'Nicamide' include all conditions associated with shock and depressed circulatory and respiratory states.

TUBERCULOSIS NOTES

[This Column will run for a few months and deal with news and views on the Tuberculosis Campaign. Ed., I. M. J.]

TRAVANCORE'S FIGHT AGAINST TUBERCULOSIS

The following Press Note has been recently issued by the Government of Travancore:

"The Government have accorded sanction to the Travancore Silver Jubilee Fund and the portion of His Majesty the King-Emperor's Silver Jubilee Fund, Delhi, returned to Travancore, aggregating to Rs. 1,14,605-14-11, being utilised for the construction of a Tuberculosis Hospital in South Travancore and a Radium and a Radiological Institute in the General Hospital, Trivandrum, as also for the purchase of radium needles.

"Out of this Fund, 150 milligrammes of radium have been purchased and pending, construction of permanent buildings, temporary arrangements for radium treatment have been made in the General Hospital. This treatment has already been begun there. The Government have also sanctioned the construction of permanent buildings for the Radium and Radiological Institute in the premises of the General Hospital. Accommodation for a sufficient number of beds in the Radium Block is proposed to be provided. A revised estimate and plan have been called for from the Chief Engineer. Arrangements are also in progress for the construction of buildings for the Tuberculosis Hospital at Nagercoil in the site newly acquired for the purpose. Administrative sanction of the Government has recently been given to an estimate amounting to Rs. 33,990 for the immediate construction of four blocks of buildings mentioned below: Administration block; the Operation Theatre; Quarters for the medical officer with the addition of a servants' room in kitchen building and a separate latrine, and quarters for European Nursing Sisters with a latrine for servants added. The proposals for the construction of the general and pay wards are under consideration."

KARACHI'S SANATORIUM

The foundation-stone of the Provincial Tuberculosis Sanatorium costing Rs. 7 lakhs was laid by the Hon. Mr. N. C. Vazirani, Minister in charge of Public Health on June 16.

The Sanatorium, when ready, will be fully equipped with modern medical apparatus. There will be 100 cottages for individual patients, separate staff quarters and a row of buildings for the relatives of the patients.

IS SANATORIUM NECESSARY FOR MALABAR?

Mr. S. Y. Krishnaswami, M.A., I.C.S., Collector of Malabar, presided over a public meeting held on 1st July at the Calicut Town Hall, convened by the members of the Tuberculosis Committee appointed at the last periodical conference, to devise ways and means for establishing a Tuberculosis Sanatorium in Malabar. He appealed to the public to help the scheme with funds.

Mr. Krishnaswami, in his opening remarks, referred to the work of the Tuberculosis Committee and said that the Committee visited two sites in the district and had selected a site between Malappuram and Kuttippuram situated in an elevated place, well suited for the purpose. Capital expenses for the Sanatorium would have to be raised by public donations, while the running expenses should be financed from donations and contributions from public bodies in the district. They had to form a committee first to take over the organisation of running the proposed institution consisting of the leading persons of the district and at the same time it would be necessary for them to form committees in various important centres of the district in order to raise the necessary funds.

The Collector then referred to the doubts raised by some people with regard to the wisdom of starting a Tuberculosis Sanatorium in Malabar. Medical experts had assured them that a Sanatorium for Malabar would be a working proposition from the medical point of view. To a lay man like him it appeared that it was not correct to send the people of Malabar suffering from tuberculosis to places outside the district. His first reason was that only a very few could afford the expenses involved in sending their patients for treatment outside the district and Tuberculosis being a deficiency disease affected the poorer classes more than the richer classes. Again, when a patient from Malabar was treated in a different surrounding and when he returned, the chances of his relapse were greater than when he was treated in his own surroundings.

Major Davies, I.M.S., District Medical Officer, explaining the scheme further, said that all over Malabar there were thousands of people suffering from this disease. It was up to those who could afford to help the people who were victims of this fell disease. One of the objections raised against a Sanatorium in Malabar was regarding the climate. He would only remind those who opposed the scheme that the people of Malabar belonged to Malabar, were born in Malabar and were going to die in Malabar and whatever disease they might suffer from it was better that they were treated in their own climate. In his opinion, the place which they had selected was an ideal spot not far off from Malappuram on a plateau. He appealed to all people to lend their support to the scheme.

Rao Sahib Dr. R. Anantan Pillai, District Health Officer, gave statistics to prove that the disease was increasing year after year in Malabar. Four out of 1,000 died in Calicut, three out of 1,000 in Tallicherry and Cochin Municipalities and less than three in Cannanore and Palghat Municipalities. A few years ago when a District Board member brought to the notice of the Board of the need for establishing a Sanatorium in Malabar he had his own doubts. He had addressed the experts who wanted the maximum and minimum temperature, rainfall, etc. Two of the experts expressed their opinion in favour of a Sanatorium in Malabar and opined that according to the latest theory, the climatic condition was only a small

ERADICATION OF MALARIA

Malaria, if not as old as the human race, is certainly as ancient as Sanskrit Susrut itself. Even in that old epitome of medical experience of the ancient Hindus one finds indication of the theory of conveyance of malarial germs by special species of mosquitoes.

The downfall of the towering civilisation of ancient Greeks and Romans has been definitely traced by scientific historians to the devastating activities of malaria. As this disease does not constitute at the very onset an immediate danger to human life, like other virulent infectious diseases, e.g., Cholera, Small-pox, etc., its treatment is generally and habitually neglected in the beginning, as a result whereof by re-infection it saps the vitality and vigour of the individual and makes him invalid. The deplorable condition of the people of India, specially of Bengal, to-day is just due to negligence in this respect in the past. From the report of the Director of Public Health Department it is found that every province shows decline in incidence of Malaria except Bengal where about three crores of people—that means about half the total population,—become victims of malarial fever and no less than fifty per cent of these victims step into the grave every year. It, therefore, goes without saying that malaria constitutes a major public health problem both from the standpoint of mortality and of morbidity.

Malaria is prevalent even in temperate zones. It would have been more or less world-wide but for the fact that extreme cold beyond the temperate zones exerts unfavourable influence over the development and growth of the mosquito as well as the parasites thus making the infection impossible there. As has already been said, malaria not only takes a heavy toll of human lives but also saps the vitality of those who survive the onslaught of this disease and who thereafter fall easy victims to other diseases. Those who fortunately escape death are rendered incapable of any strenuous struggle for existence. Being unfit for a proper standard of civil life they eke out and drag on a miserable existence. It is futile to think of or try for the political, educational and economic progress without solving this serious problem which confronts the nation. To make the country rich in every respect the first and foremost duty of every social worker should, therefore, be to try to eradicate malaria from the land.

But how to do it?

Though quinine has been the time-honoured agent in the treatment of malaria, both old and recent statistics have shown that it does not hold the patient away from re-infection. **QUINO-HAEMOGEN** which besides quinine contains total cinchona alkaloids in adequate dosage with adjuvants like iron, arsenic, nuxvomica, etc., has given the maximum result with minimum of cost. Extensive experiments in vast areas infected with malaria and also in many hospitals have proved the undisputed anti-malarial efficacy of **QUINO-HAEMOGEN**. It not only kills the parasites but also helps to regenerate the blood of the patient and thereby lessens the chance for re-infection.

ADVT.

ALL-INDIA INSTITUTE OF HYGIENE AND PUBLIC HEALTH, CALCUTTA.

Following courses are offered by the All-India Institute and Public Health, Calcutta. The dates of commencement of the several courses and the last date of submission of applications for admission to the same are noted against each.

	Date of commencement of the course.	Last date for submission of applications for admission.
1. D. Sc. (Public Health C. U.)	30th Oct. 1939	31st Aug. 1939
2. D. P. H. (C. U.)	do.	do.
3. D. P. H. & Hy. (Faculty of Tropical Medicine & Hygiene, Bengal).	do.	do.
4. D. M. C. W. for women medical graduates only (Faculty of Tropical Medicine & Hygiene, Bengal).	2nd Oct. 1939	do.
5. Special course in Nutrition.	do.	do.
do.	3rd Jan. 1940	30th Nov. 1939
6. do. in Clinical Biochemistry.	2nd Oct. 1939	31st Aug. 1939
do.	3rd Jan. 1940	30th Nov. 1939
7. do. in Malariology.	2nd Oct. 1939	31st Aug. 1939
8. do. in Vital statistics & Epidemiology.	3rd Jan. 1940	30th Nov. 1939
9. Composite course.	2nd Oct. 1939	31st Aug. 1939
10. Maternity & Child Welfare.	1st Nov. 1939	do.

For forms of application and prospectus please apply to—

THE DIRECTOR
ALL-INDIA INSTITUTE OF HYGIENE & PUBLIC HEALTH,
110, CHITTARANJAN AVENUE, CALCUTTA.

A M 8789

ADVT.

FOREIGN MEDICAL NEWS

Our London Letter

(From Our Own Correspondent)

G. M. C.

The 149th Session of the G. M. C. was held on May 23 and the President, Sir Norman Walker, after referring to the sad demise of Sir Robert Bolam in feeling terms, said in the course of his address: "The Medical Register for 1939 shows that on Dec. 31, 1938, the number of names in the Register was 61,420, an increase of 1,257 on the preceding year. The new names include 330 added to the colonial or foreign lists of the 1938 Register. There is a substantial surplus of income over expenditure for 1938 of £ 3,433. Some of the duties imposed by the Medical Acts are expensive to discharge and that of maintaining and raising the standard of qualification is one of the most important. A new cycle of inspections of the final examinations is to begin in 1940."

Adverting on Overseas Medical Education, the President appreciated the co-operation of Prof. Macdonald of the New Zealand University and gave brief detail of his visits to the Universities of Hong-Kong, Singapore, Ceylon and Bangoon. He mentioned that Medical degrees of the Rangoon University are recognised "for the time being" and that its continuance would be dependent on the nature of the report from Sir Richard Needham on the visitation which he had recently made.

The President finally laid stress on a sound and broad general education, on the proper and quick methods of obtaining co-operation from the authorities with whom reciprocal relationship exists and on the inadvisability of medical boards or councils treading on "the hazardous grounds" of local or international politics while considering the standards of professional education.

CANCER SERVICE

Recently the Minister of Health has sent a communication to Local Authorities drawing attention to the provisions of the Cancer Act 1939 which impose on them the duty of making arrangements to secure adequate facilities for diagnosis and treatment of Cancer cases. How far this Act can be successfully applied remains to be seen, but there is no doubt that a decade should pass to assess the results of this Act.

X-RAY THERAPY IN INOPERABLE MALIGNANT TUMOURS

Mr. Walter W. Galbraith dealt with the subject of x-ray therapy in inoperable malignant tumours of the urinary tract in a meeting of the Royal Society of Medicine held on May 25th with Dr. Winsbury White in the Chair. Seventeen

cases of tumour of the bladder showed only a slight response to the treatment. And the results in patients with malignant papillomatosis were not encouraging, but in infiltrating carcinomata, although no case was cured, there was some regression of the growth, which in one case became operable. The Chaoul apparatus should be used for strictly localized growths in the base of the bladder—cases which normally presented technical difficulties from the surgical point of view. Six cases of carcinoma of the prostate were included in his series: all of them showed response to x-ray therapy. Sufficient time had not yet elapsed to justify any definite statement as to the scope of the treatment, but the method seemed worthy of further and more prolonged trial.

Dr. Struthers Fulton said that while surgery was the treatment of choice for tumours of the kidney, such tumours appeared to be responsive to x-ray therapy, and in all cases in which any doubt as to operability existed such treatment should be tried. Tumours of the bladder, on the other hand, did not appear to be particularly sensitive to radiation, and the results in this group had been disappointing. The intracavitary method of x-ray treatment should be more extensively tried, but it was suitable only for strictly limited growths not exceeding 3 to 4 cm. in diameter. Any attempt to apply the method to more extensive growths was unlikely to meet with success. Tumours of the prostate appeared to offer a more hopeful field for radiotherapy and encouraging results had been obtained. Before instituting treatment one should consider whether the patient was in sufficiently good health to tolerate the skin reaction and the bladder irritability which was often occasioned.

Our American Letter

(From Our New York Correspondent)

BUILD IN RELATION TO MENSTRUAL DISORDERS

In search for a relationship between physical configuration and menstrual disorders and obesity, Leona M. Bayer, M.D., of the Stanford University School of Medicine, San Francisco, Cal., has classified women and girls into four types:

hypofeminine,
feminine,
hyperfeminine, and
virile.

The groups are expressed in terms of anthropometric criteria which reflect the extent and direction of sexual maturity. The search for relationship between human configuration and human disease have intrigued physicians since the beginning of medical history. The four female types are described in the following way.

1. *Normal feminine*.—Build is distinguished by normal body hair and breast development, and average proportions, especially with regard to

sitting height-stature and trunk-breadth indices. Clinically these patients are usually normal except for menstrual disturbances of flow and rhythm.

2. *Hypofeminine*.—Build is distinguished by scant body hair, small breasts, long legs, narrow pelvis; underweight, primary amenorrhea, incomplete genital development, delayed bone age, and increased sugar tolerance constitute the associated syndrome.

3. *Hyperfeminine*.—Build is distinguished by increased body hair, large breasts, short legs, broad pelvis. Overweight, advanced bone age, decreased sugar tolerance constitute the clinical syndrome.

4. *Virile*.—Build is distinguished by excessive body hair, small breasts, short legs, broad shoulders, narrow pelvis. Overweight, musculinity, secondary amenorrhea, masculinization of the genitals constitute the extreme clinical syndrome.

The hyperfeminine and virile groups mature earlier. A crucial finding is the fact that approximately 56% of the women in the hypofeminine group, with a mean age of over 25 years, had not yet menstruated.

TREATMENT OF ANGINA PECTORIS

This subject has become more and more important, because coronary diseases of any kind are much more frequent from year to year. Relief of symptoms is the first duty; thereafter search can be made for the etiologic factors involved and the therapy of choice determined. Joseph B. Wolfe, Medical School, Temple University, Philadelphia, gives a valuable survey on the therapy of angina pectoris. The drug of choice for relieving the anginal attack is nitroglycerine, gr. 1/100 to 2/150. This should be taken at the first suggestion of pain, so that the "attack habit" may be prevented. Other effective measures are a drop or two of spirits of glonoin, inhalation of amylnitrite, heat over the precordium or an ounce of whisky. Bicarbonate of soda (½ teaspoon) has been effective when other measures have failed. Morphine sulfate gr. ¼, pantopon gr. ½, dilaudid gr. ⅓ may be used hypodermically when the pain is intractable. All activity should be abandoned and the patient remain at absolute rest until the attack is over. Attempts to walk off or to work off an attack may lead to cardiac damage.

After the attack, the patient should be told to follow the following rules in order to prevent further attacks: live within their physical capacity and avoid agitating situations; not walk against the wind; have the chest wall protected against cold; small meals taken at frequent intervals; no physical exertion for at least an hour after eating; aimless exercise should be encouraged; elimination of tobacco benefits a great number; avoid straining at stool; whisky may be given in ½ to 1 ounce doses between meals or at bed time; diet adjusted to the patient's mode of life; fried foods are especially harmful; bolting of food often precipitates attacks by esophageal irritation, particularly when the patient is suffering from a posterior coronary occlusion; prolonged physical

and mental rest, with a change of environment at frequent intervals.

Xanthine derivatives, formerly popular in this stage of the disease, are now believed to be useless or even harmful. Wolfe found them to be very valuable, however, when one desires to stimulate the heart action or to increase the cardiac irritability. When angina is due to essential hypertension, arteriolar sclerosis or arterio-capillary fibrosis, atropine sulfate, 1/50 to 1/150 gr., is valuable. In cases of sympathetic preponderance the barbiturates may prove of value. The purine derivatives are also beneficial. Epinephrine, benzedrine and ephedrine should be avoided in these cases.

CHANGES WITH AGE IN THE CARDIAC OUTPUT

The maintenance of a usual volume of output of blood per minute from the heart is among the important functions of the circulation. This volume in normal young men and women under so-called basal conditions has been found to be 2.2 ± 0.3 liters per square meter of body surface. The phrase "cardiac output" means the amount of blood expelled by the heart in a minute. If the calculation is made in terms of the surface area of the body, the phrase "cardiac index" is used. In the same individual under the same conditions the amount is the same from day to day. It is approximately the same, further more, in individuals of the same sex and size of body.

A communication of W. H. Lewis, Jr., from the Hospital of the Rockefeller Institute for Medical Research, reports the changes in the volume of the index which takes place under basal conditions, in normal men over forty years of age. For measuring the cardiac output the acetylene rebreathing procedure was employed. The cardiac index has been measured in 100 normal men, 20 in each decade from 40 to 89 years, and in addition in two men of 91, and one of 101 years. The index declines 0.18 liter (7.3 %) during this period or in each decade 0.035 liter (1.5 %). The correlation is negative and is -0.1862 ± 0.0965 . It is not significant. But if the entire series of 103 men is utilized it is -0.2039 ± 0.0944 and is significant. The rate of decline is almost the same. The mean values in succeeding decades or half-decades suggest that the rate of decline of the curve is not straight but is arrested for a time after 55 years. Though the measurement of the index indicates slight decrease in the work of the heart under basal conditions, there remain to be considered other functions which are involved in changes in cardiac activity with age.

Lewis determined also the blood pressure of the men in a basal state—at rest in bed, in the morning, having fasted fourteen hours. The systolic pressure rose continually after the age of 40, but the greatest rise was observed after the age of 65. At the age of from 40 to 44, the average pressure was 116 mm.; at the age of from 60 to 64 it was 124 mm. At the age of from 85 to 89 it was 158 mm. For two men over 90 the pressure was actually lower. The general trend

EFFECTIVE TREATMENT OF SECONDARY ANÆMIA WITH



HEPATOGLOBINE

CONTAINING HORSE MUSCULAR PLASMA
EXTRACT OF LIVER AND OXYHAEMOGLOBINE

Dose: 2-3
Table spoonfuls
Daily
before Meals

Agents: RAPTAKOS, BRETT & CO. LTD., BOMBAY & CALCUTTA.

IN THE SICKROOM

Horlicks is an ideal food for use in the sick-room. It is easily and simply prepared by the addition of water only. Hence, a freshly prepared appetising drink is assured, whenever the patient requires it. It is equally nourishing hot or cold. For these reasons it is especially useful during fevers and certain digestive disorders.

HORLICKS

is full cream fresh milk modified by the addition of the nutritive extracts of wheat and malted barley. It is easily digested and readily assimilated. Besides providing a satisfactory proportion of first-class protein it possesses marked protein-sparing properties. It thus prevents tissue waste and is a valuable builder during convalescence.



of the systolic pressure is a rise and is directly related to age. The average mean diastolic pressure in those aged from 40 to 44 years was 96 mm. A slight rise occurred up to 55 years, a more marked rise after 75 years.

Our German Letter

(From Our Own Correspondent)

TUBERCULOSIS AND FITNESS FOR MARRIAGE

Redeker gave a lecture and report on the importance of tuberculosis tests to determine fitness for marriage, according to the new German marriage laws. Presence of tubercle bacilli in the sputum is alone not sufficient proof that a marriage certificate cannot be issued, rather it is a proof that there is really a progressive tuberculosis and that consequently it is necessary to prevent the dissemination of tuberculous infection. Tuberculous patients, in an average, should not marry for at least a two year period, but this period has not to be observed mechanically. It is difficult or almost impossible to make a valid judgment as to marriage fitness during the presence of an artificial pneumothorax. The patient's condition before institution of the pneumothorax is essential for the judgment. After abandonment of the pneumothorax a period of from two months to one year must pass before marriage can be considered.

The marriage partner may be jeopardized mainly by three factors: first the quantity and frequency of bacilli in the sputum of the tuberculous partner; second the quantity and frequency of bacilli absorbed by the healthy partner; and third the predisposition and resistance of the healthy partner toward the tubercle bacillus. Social conditions and hygienic understanding of the engaged couple may be considered also to a certain degree. No concessions, however, are permitted where offspring is to be expected since children of such a marriage are jeopardized in a high degree. The decision for all problems concerning marital laws has to be made by the public health authorities.

TUBERCULOSIS IN THE ARMY

Both mortality and morbidity from tuberculosis in the German army are lower today than they were in the years preceding the World War. 320 to 542 per mille of the soldiers treated for tuberculosis from 1925 to 1930 became unfit for service. Their mortality rate was 24.5 to 63.9 per cent. In the period 1935 to 1936 about 15.8 per cent of all soldiers unfit for service, suffered from tuberculosis. The early recognition of tuberculosis is important. The anamnesis, therefore, has to be checked up thoroughly, but all statements of the patient concerning cough and sputum are generally of little value. The physical examination of the lungs will not discover all cases of tuberculosis; all recruits, therefore, are X-rayed during the first few months of active service. By this method 4 to five per mille cases of active pulmonary tuberculosis are discovered, 0.5 to 1.0

mille of whom are in a stage of expectoration, also 30 per mille inactive cases who need supervision. Results are less favourable for soldiers of longer service.

NEW STATUTE OF MIDWIVES

According to the new statute of midwives, every woman in Germany is entitled to the service of a midwife. The midwife is bound to attend pregnant, parturient, and puerperant women as well as new born infants at any time when she has been asked for help. Every pregnant woman, on the other hand, is due to call a midwife for her confinement in proper time, and if this proved to be impossible, she has to call her immediately after parturition. Every physician is obliged to see that a midwife is called for every confinement.

An age limit will be fixed for midwives beyond which the general license and the required residence license will not be valid any longer. Midwives who have received the residence license, are guaranteed a certain minimal annual income. If a midwife's income falls below the minimum, the difference is paid her by the state. The fees to be asked by midwives may be fixed by local regulation. Every midwife is due to be a member of the National Society of Midwives (Reichs-Hebammenschaft). For obstetric services, with the exception of physicians, only those midwives who have passed a proper examination and been duly granted the local residence-license are officially recognized as competent practitioners of midwifery in a particular community. The midwife after having received her residence-license, is assigned to this particular place of residence. But she has the right to practice beyond the boundaries of her assigned district of residence if she is called on to do so.

DRINKING OF SEA WATER AS A CURE

Recently much has been said and written in Germany about the therapeutic value of drinking sea water, especially as a cure for certain chronic diseases. The results which were obtained so far, are mostly of an empirical nature. Clinically successful is, according to W. Brand, Kolberg, particularly the treatment of gastric diseases, e.g., cases of chronic gastritis and complaints originating from hyper as well as hypo-acidity the aetiology of which is frequently obscure. No success can be expected in cases of nervous gastric disorders in neurasthenic patients. Cautious dosage is necessary for gastric and duodenal ulcers to avoid an initial aggravation. Only three to four small liquor glasses of sea water are sipped slowly in the beginning of the cure, but the quantity is increased gradually to three times 125 gm. a day.

Subcutaneous injection of 2 to 5 to 20 cc. of sea water into the thigh at intervals of eight or ten days is supposed to be helpful for ulceric condition. A second group treated with sea water are diseases of the skin, particularly chronic eczemas, other skin diseases and toxic nephritis.

(From Our Own Correspondent)

BIOCHEMICAL STANDARDIZATION LABORATORY

The Biochemical Standardization Laboratory, All-India Institute of Hygiene and Public Health, Calcutta, has been constituted a "National Centre" for the distribution of Standard preparations of biological products to those that ask for them. If laboratories intimate their requirements, the Centre will import and supply the appropriate standards.

Standards have been established for many products by the Biological Standardization Committee of the League of Nations, and the actual "standard preparation" of each kind is maintained and issued to research and manufacturing laboratories by specified Institutes, such as the National Institute for Medical Research, Hampstead (under the Medical Research Council) and the State Serum Institute, Copenhagen. For convenience of distribution of the "standards" to those that require them, it has been found advisable to form "National Centres" in countries where biological products are manufactured. These centres receive duplicates of each standard at intervals and issue them to working laboratories for the control of their preparations.

Formerly, laboratories in India had to obtain their "standards" from the Institutes in Europe possessing each individual type, but, with the new arrangements now brought into force, it will be possible for them to get their requirements from the Biochemical Standardization Laboratory, Calcutta.

The following are the standards which will be available at the Laboratory:—

- Insulin;
- Pituitary (Posterior lobe) Standard Powder;
- Oestrus—producing Hormones
 - (i) Hydroxy-Ketonic form
 - (ii) Mono-benzoate of Di-hydroxy form;
- Male Hormone (Androsterone);
- Corpus Luteum Hormone (Progesterone);
- Neoadrenalin;
- Sulphurphenamine;
- Quabain or Strophanthin;
- British Standard Tinct. Strophanthus;
- Standard Digitalis Powder; and also
- Adrenaline and Scillaren Standards.

In the manufacture of biochemical and pharmaceutical products, many of the finer qualities of which are produced in the country, India possesses a growing industry of great value. But the quality of the products has to be assessed by biological tests in relation to exact standards. The new arrangements now made at the Biochemical Standardization Laboratory are, therefore, likely to be of great assistance to this industry.

LEPROSY IN TRAVANCORE STATE

The *Hindu* Correspondent writes under date July, 4: Travancore is estimated to contain over 35,000 lepers, and a leprosy map of Travancore that has been prepared shows the number of estimated lepers in each taluk. If leprosy clinic could be attached to existing dispensaries, it is possible to treat the entire lot of lepers. In the absence of the necessary number of clinics, a scheme has been evolved under which four special sub-assistant surgeons are to be employed for leprosy work only. Different centres will be visited by the surgeons on different days, and it will be part of their work to conduct leprosy surveys also.

In Travancore, nearly Rs. 66,000 was spent in 1938 on leprosy work, of which the Government contributed the sum of Rs. 50,000 while the British Empire Leprosy Relief Association contributed the rest. The sum includes the pay of the four special sub-assistant surgeons. A total of about 2,500 patients attended the nine out-patients' clinics.

It is interesting to note that Noornad was an area supposed to be practically free from leprosy. But after a clinic was opened, 2,151 cases came for treatment during 1936-38, of which 389 came from places within a radius of five miles from Noornad. A scheme for the control of leprosy in Noornad has been submitted by the Medical Officer in charge of the clinic to the Travancore Government.

INDIAN MEDICAL SERVICE STRENGTH OF CIVIL POSTS

The Secretary of State for India has prescribed the strength of the Indian Medical Service (Civil) as 323. The following table shows the allotment of the posts under the Central and Provincial Governments:

	(a) Duty Posts Reserved	(b) Leave reserve against (a)	(c) Other Medical posts	(d) Posts temporarily Reserved for Officers in Civil employ-ment on May 10, 1938	(e) Posts temporarily Reserved for Officers in Civil employ-ment on April 1, 1937	Total
Central Government						
E. H. L. Department	30	8	..	..	5	43
External Affairs Dept.	11	3	..	..	..	14
Crown Representative	7	2	..	..	..	9
Madras	15	4	7	6	10	42
Bombay	12	3	5	3	7	30
Bengal	14	4	6	2	12	38
United Provinces	14	4	4	2	13	37
Punjab	10	3	4	7	12	36
Bihar	9	2	3	2	9	25
Central Provinces	5	2	3	1	5	16
Assam	7	2	..	4	..	13
N. W. Frontier Province	4	1	3	..	8	11
Sindh	2	1	2	..	..	5
Orissa	2	1	1	..	..	4
Total	142	40	36	27	76	323

REVIEWS

The Newer Knowledge of Nutrition by McCollum and others. Fifth edition, 1939. The Macmillan Co., Price 18 sh. net.

The Science of nutrition has been growing quickly during the last decade, so quickly that it is far in advance of people's financial ability to apply this knowledge. The authors trace the history and development of concepts of the science of nutrition in a clear and exhaustive manner, give a full account of recent additions to it, and relate their important connection with the individual and nation's health. Each chapter ends with an almost complete bibliography on the subject it treats, and thus the whole book becomes a complete treatise on the science of nutrition—authoritative and reliable in details, exact in description, and balanced in conclusions. It is a peerless work, and the modern physician or surgeon would need it to make him really modern in his approach to the prevention or treatment of any disease. The get-up and print are excellent, and the style of the authors is simple and direct.

A Handbook on Diabetes Mellitus and its Modern Treatment by J. P. Bose. Third edition 1939. Thacker, Spink & Co., Calcutta. Price Rs. 7-8-0.

Dr. Bose requires no introduction to the Indian readers, and we are quite confident that the third edition of this famous hand-book will meet with success it deserves. All the recent advances in diabetes mellitus are discussed and assayed and the chapter on protamine zinc insulin is a judicious survey of the utility of this newer compound. It is a hand-book in the real sense of the word—concise, practical and free from brain racking theories and details. It is a book for the practitioner, to whom we heartily recommend it.

Short Notes on Leprosy by Dr. D. N. Mukherji. First edition, 1938. Price As. 2 only. (Copies can be obtained from the Leprosy Specialist to the Government of C. P. & Behar, Raipur).

This is a small and unpretentious treatise on leprosy. The compactness of the book and its cheapness make it easily accessible to the practitioner, and he can read the book within half-an-hour to his great advantage. But the get-up and print should be improved to make it more attractive.

EXTRACTS

Pathology of Cholera. H. Chatterjee (*Jr. I. M. A.*, May 1939, P. 449) writes (1) that agglutinable cholera vibrios are isolated from 80% of the post-mortem cases, (2) that actively inflammatory and ulcerative lesions are not common in the cholera post-mortem cases, (3) that a peculiar capillary dilatation of the mucous membrane and submucous coat of the small and large intestines is a common feature, (4) and that hyperplasia of the lymphatic follicles is seen in many cases, especially the more severe ones. Regarding the hæmolymp organs he writes that in the bone-marrow of cholera cases the normally closed and collapsed capillaries dilate and are filled up with red blood corpuscles. The spleen shows enlargement. There is marked engorgement of red pulp. The lymphatic elements of the spleen show a marked hyperplasia. The liver shows dilatation of the sinusoids and their filling up by the red cells. The changes do not affect the whole liver uniformly. The

thymus is seen remarkably enlarged in a good proportion of the cases. The author concludes that although the symptoms and signs of cholera are very acute, the absence of commensurate myeloblastic reaction in the bone-marrow somewhat goes against the disease being an acute inflammatory condition. The pathology of the dilatation of the collapsed capillaries of the bone-marrow suggests that some histamine-like substance is at work.

Gonadotropic Hormones in the Treatment of Whooping Cough. Venkatachalam and Ratnagiriswaran (*I.M.G.*, May 1939, P. 271) write: On the ground that whooping cough is a disease that shows a preference for attacking children below 10 years of age and old persons occasionally, and that adults are invariably immune to it, the authors considered probable that the power to resist and overcome the disease might be closely associated with the activity of the sex glands, the dominant future of adult life. Based on this assumption the authors prepared their own charcoal adsorbate of the gonadotropic hormones of pregnancy urine or used antutirin "S" whenever funds permitted. This treatment was carried out in a series of 136 children and yielded satisfactory results in 80.3 per cent of the cases. The drug was also found to be effective as a prophylactic remedy. In cases where treatment by the parenteral route was called for, the failure of the oral method was probably due to a co-existing gastrointestinal disturbance that might have interfered with the absorption of the hormones. In other cases it might have been due to the imbalance of the endocrines preventing the gonadotropic hormones from exerting their usual effects. Also in these rare cases, where adults have been reported to have been victims of whooping cough a possible explanation is the malfunction or dysfunction of the gonads.

Traumatic Complication of Shock Therapy. Hamsa and Bernet (*Jr. A. M. A.*, June 3, 1939, P. 2244) write that convulsive shock therapy has been employed for several years in the treatment of severe psychoses without sufficient attention being paid to undesirable complications. They report 7 cases of spontaneous fractures which have occurred during the convulsion induced by Metrazol. The muscular contractions of shock therapy may be classed with those of tetanus in their severity and subsequent pathologic change. The predisposing cause of such fracture may be bony atrophy or starvation osteomalacia, as it is not unreasonable to expect moderate dietary deficiency in psychotic patients with resultant osteoporosis. The authors suggest, induction of spinal anaesthesia prior to shock therapy as a means to prevent fractures of the spine and lower extremities. They also warn that persistent pain in any region of the body following shock therapy should call for immediate x-ray examination. They conclude that only in a well-equipped psychiatric department under a most careful supervision can it be administered successfully.

Nutritive Failure: McLester (*Jr. A. M. A.*, May 27, 1939, P. 2110) is of opinion that

(1) For the prevention of nutritive failure, dependence should be placed always on adequate diet, not on vitamin concentrates,

(2) Diets which are fully suitable for prevention are as a rule entirely inadequate for treatment; for the latter purpose much larger amounts of food are necessary and resort must then be had to preparation obtained from the pharmacist,

(3) When liver extract is used it should preferably be given in the broader fraction, not too concentrated.

(4) Whenever food extracts are given as a treatment for deficiency states they must be given in large amounts.

Experimental Tumorigenesis with Subcutaneous Tablets of Oestradiol. Lipschutz and Luis Varges report (*The Lancet*, June 10, 1939, P. 1313) that uterine and extra-uterine tumours can be produced in the guinea pig by introducing a tablet of oestradiol beneath the skin. These tumours are similar to the extra-uterine fibroids or fibromyomas produced previously by a long course of injections of follicular hormones (free oestradiol and oestrone, different esters, and stilboestrol). The uterine tumours, subserous and mesometrial begin to appear as early as 2½–3 weeks after the introduction of the tablet. In about 7 weeks a high degree of uterine and extra-uterine tumorigenesis may be attained with tablets of follicular hormones. The degree of tumorigenesis with tablets of oestradiol is much greater than with injections of free oestradiol when equal quantities are compared. This is evidently due to the continuous absorption and the continuous flow of oestradiol in the case of tablets as contrasted with the discontinuous flow in the case of three injections of free oestradiol in the week. The treatment with tablets is comparable—as regards danger of tumorigenesis—to a treatment with esters of oestradiol administered by injection without intervals free from treatment.

• [Although the results of this animal experiment are not comparable to the results in the humans, particularly in view of the relatively higher susceptibility of guinea pigs to follicular hormones, yet it is essential to bear in mind this possibility in women treated with oestrogens over long periods. This is another lesson and warning that all recent advances should be utilised with greatest caution, specially in the field of treatment. *Ed., I.M.J.*]

Autopsy Evidence of Pulmonary Embolism

Thomas H. Belt's (*The Lancet*, June 3, 1939, P. 1259) analysis of routine autopsies reveals a much higher incidence of pulmonary embolism than is commonly recognised. The phenomenon is to be observed more frequently in medical than in surgical cases. The thrombus from which emboli are likely to arise is usually formed in the larger veins of the thigh or pelvis without obvious concomitant phlebitis. In most cases of thrombo-embolism there is evidence of prolonged circulation. There are probably three factors at work in the highly complex mechanism of thrombus formation: damage to the vessel wall, increased coagulability of the blood and decreased velocity of flow. Thrombosis does not take place without at least two of these factors acting together.

Remote Effects of Puerperal Sepsis. John B. Barr (*B. M. J.*, June 3, 1939, P. 1134) investigated 200 cases of puerperal sepsis to ascertain the nature of maternal morbidity and found as follows:

(1) In only a small percentage of cases is the subsequent health of patients recovering from puerperal sepsis severely affected; but some mild invalidism is to be expected.

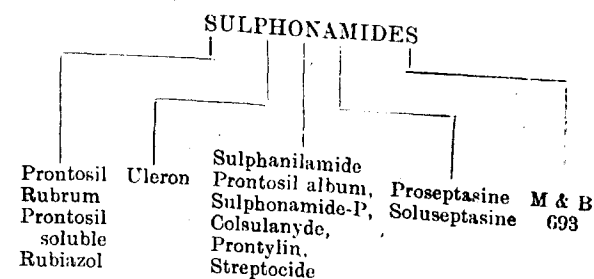
(2) Prominent gynecological sequelae to puerperal sepsis would appear to be sterility, increased incidence of abortion, and a higher incidence of puerperal sepsis affecting future confinements.

(3) Chronic infective lesions of the reproductive organs were commonly found as a direct result of primary puerperal infection, while many affections outside the reproductive tract appeared to bear a definite aetiological relationship to the original infection.

Recent Developments in Modern Chemotherapy. DOUTHWAITE. (*The Practitioner*, June 1939, p. 729) writes:

The main purpose of this article is to discuss the indications for and the method of employment of, sulphanilaminopyridine (M & B 693). Before doing so, however, it would seem desirable to write shortly on the nomenclature of the sulphonamides, which has caused considerable confusion in the past.

The term *sulphonamide* is a generic one and embraces all the drugs mentioned subsequently. The name *sulphanilamide*, on the other hand, denotes one substance, and one substance only, no matter what other titles it may bear. It is, in point of fact, p-amino-benzenesulphonamide, a substance primarily derived from the original prontosil by its disruption in the human body. It is clear then that prontosil is not sulphanilamide (though prontosil album is), yet both are sulphonamides. Other trade names for sulphanilamide are prontosil album, sulphonamide-P, colsulanyde, prontylin, and streptocide. The next sulphonamides in chronological order are proseptasine and soluseptasine. These drugs are benzyl derivatives of sulphanilamide and should not be spoken of as sulphanilamide without qualification. Soluseptasine differs from proseptasine in being its soluble sodium derivative. Finally, comes the most remarkable of the sulphonamides in respect of therapeutic activity, namely, sulphanilaminopyridine (M & B 693). In short, the following table should clarify matters:—



TOXIC EFFECTS OF THE SULPHONAMIDES

Certain toxic effects, usually but not always the result of prolonged administration, may arise during or soon after sulphonamide treatment. These are cyanosis, nausea, colicky abdominal pain, morbilliform and maculo-papular rashes, photosensitization of the skin, pyrexia, acidosis, hæmolytic anæmia, methæmoglobinæmia, sulphæmoglobinæmia, and reduction in number of the polymorphonuclear leucocytes. The rise of temperature occasioned by the use of the drug, though rare, is apt to be confusing when it occurs, as it may suggest a relapse of the disease under treatment. Mental depression is common in all and may last for several days after the drug is withdrawn; it is usually associated with intense lassitude. In addition it must be emphasized that vomiting and headache, though not unknown in sulphanilamide therapy, occur more often during the use of M & B 693. Whether the vomiting is of central or of peripheral origin has not been clearly determined. Lintott and I were unable to detect any inflammatory reaction in the gastric mucosa in the vicinity of particles of this drug. The observations were made with a gastroscope and were therefore limited to five minutes' duration. This is, nevertheless, sufficient time to observe the irritant effects of aspirin, mustard, and certain other locally noxious substances, so the negative results may be of weight in suggesting a central origin to the vomiting. This is perhaps supported by the frequency of headache. Strangely enough,

the vomiting may be an initial symptom only and, if the patient can persevere with the drug it usually subsides.

Methæmoglobinæmia and sulphæmoglobinæmia are responsible for the cyanosis which may develop rapidly and to a considerable degree. It is suggested by Paton and Eaton (1937) that it is methæmoglobin which is the true toxic product of the sulphonamides. They emphasize that:—(1) Administration of magnesium sulphate simultaneously with, or within two or three days preceding, administration of sulphonamide gives rise, in most persons, to sulphæmoglobinæmia. The formation of sulphæmoglobin takes place rapidly even after small doses of the drug. (2) In the absence of purgatives large doses of the drug are well tolerated, but in a considerable proportion of patients doses of 5 grammes per diem result in methæmoglobinæmia. Some patients may have an increased susceptibility. (3) The removal of sulphæmoglobin from the blood is much slower than removal of methæmoglobin. The former has been detected six weeks after administration of sulphanilamide ceased. The latter disappears in approximately twenty-four hours. (4) Oxygen is of little value in treatment of severe cases of sulphæmoglobinæmia. If the patient's life is in danger, blood transfusion is indicated. In methæmoglobinæmia, oxygen appears to be of value.

The mechanism of the production of sulphæmoglobin is of great interest. Archer and Discombe (1937) state that the majority of cases formerly spoken of as enterogenous cyanosis, i.e., that form which is due to methæmo- or sulphæmo-globin, were associated with prolonged or excessive ingestion of drugs derived from aniline or nitrobenzene, e.g., phenacetin, acetanilide, methylacetanilide, sulphanilamide, and nitrobenzene. Nevertheless, there have been some cases of true enterogenous cyanosis for which drugs cannot be incriminated. Exactly how methæmoglobin is formed is not known. Sulphæmoglobine is derived from the sulphide absorbed from the bowel. Thus phenacetin given to dogs may produce methæmoglobin; if given with sulphur, sulphæmoglobinæmia results. Sulphuretted hydrogen (H₂S) can react with hæmoglobin in the presence of oxygen, and the combination is accelerated or catalysed by simple derivatives of aniline.

In human beings either a gross excess of sulphide absorption from the bowel, or a normal amount in the presence of a catalyst will cause sulphæmoglobinæmia. Experiments *in vitro* have proved that sulphanilamide has such a catalytic action.

Saline cathartics particularly should be avoided as a purgative for sulphanilamide-treated patients. To produce watery evacuations is to increase microbial growth and unabsorbed food in the colon, and thus toxic absorption from the gut. The saline purgatives are the worst in this respect, and thus favour sulphuretted hydrogen formation, and indirectly sulphæmoglobinæmia. The sulphur in the sulphate plays no part in this production. It would appear then that all cathartics are liable to produce the above blood changes in conjunction with sulphanilamide. During treatment the patient should be on a low residue diet free from eggs (because of high sulphur content). Paraffin may be used as a lubricant, and a simple enema if needed. No phenacetin may be given during sulphanilamide medication. In general it may be accepted that the cyanosis caused by these blood changes suggests much more danger than really exists. Sulphæmoglobinæmia is the least desirable of the two products, and may be of danger to anaemic patients.

PNEUMOCOCCAL INFECTIONS

The only member of the sulphonamides of value in the treatment of pneumonia and other pneumococcal infections is M & B 693. Whitby (1938) has shown conclusively that the drug is highly potent against the pneumococcus, especially types I, VII and VIII. Extensive clinical experience confirms the claims for its efficacy. Evans and Gaisford (1938) treated one hundred cases of pneumonia with M & B 693, and another hundred cases were taken as controls treated on non-specific lines. The mortality was 8 per cent in the former and 27 per cent in the latter. When possible typing was carried out, the majority of these belonged to type I. It is no longer necessary to multiply instances of this sort, for there can be few practitioners who have not now convinced themselves of the drug's value.

The question which naturally arises is, should M & B 693 be given to every patient with pneumonia whether frankly lobar or broncho-pneumonic in type? I believe that the affirmative is the right answer if the real difficulty in obtaining bacteriological information with the promptitude that such cases demand is taken into consideration. In hospital, if sputum is available, there is no difficulty in knowing within a few hours the nature of the infecting organism or organisms, and the grouping of the pneumococci. In private practice this is quite another matter. The pneumonias of sudden onset with chill, high fever, pleuritic pain, and rapid respiration are nearly always of pneumococcal origin. The patchy broncho-pneumonia often developing gradually after a heavy cold, or bronchitis, is the one which presents the problem. The flora of sputum is usually of mixed type; but, again, pneumococci are usually found and often preponderate over various types of streptococci and other organisms. In any case, if the patient has a hæmolytic streptococcal lung infection the giving of sulphanilaminopyridine is correct treatment, for it must be remembered that it is as efficacious against the susceptible forms of streptococci as are the other members of the sulphonamide group.

I have seen several persons with broncho-pneumonia respond dramatically to full doses of M & B 693 only to relapse after three to five apyrexial days, though still taking the drug, with further fever and extension of physical signs. In the sputum at the onset pneumococci predominated; at the time of the relapse they were scanty, or absent, whilst the other members of the flora, chiefly *Str. viridans*, had taken the field. Although M & B 693 has some deterrent action on the growth of the latter organism, this is not nearly so pronounced as that exerted on the pneumococcus.

For pneumococcal infections in other parts of the body the nature of the organism is less likely to be surmised accurately, and bacteriological investigation is highly desirable as an immediate adjunct to treatment.

GONOCOCCAL AND OTHER INFECTIONS

In gonorrhoea, M & B 693 is to be preferred to the other sulphonamides because it is certainly more efficacious. In the early acute stages, give 1 gramme (2 tablets) thrice daily for five days, 0.5 gramme (1 tablet) thrice daily for five days. If the urine is clear by the morning of the third day, complete recovery is certain, but the absence of this sign should not deter from carrying out the full course. Since the routine use of the drug in the V. D. clinics, acute posterior urethritis is seldom encountered. In gonorrhoeal rheumatism the results, though often brilliant, are less certain. The initial dosage advised for pneumonia should be used

here, and if the immediate results are good, the drug should be continued after the first three days in 1 gramme doses thrice daily for a week.

As the results of experiments M & B 693 is known to possess some degree of action against *Staph. aureus* and *Strep. viridans*, but is not nearly so powerful in this respect as in the case of pneumococci and gonococci. Clinical reports in relation to staphylococcal infections encourage the use of the drug. Clearly it is advisable to employ full dosage over a short period if a good result is to be obtained. Eight grammes in the first twenty-four hours and six grammes daily for the next two days should be given. Most of the toxic effects of the sulphonamides arise after several days of treatment, but do not appear to be made more likely by massive dosage over a short time.

DOSAGE

It should be borne in mind constantly that the sulphonamides, if they are to do good, will do so in a few days. To persist in administering, for instance, M & B 693 day after day to a patient with pyrexia of obscure origin is not only bad medicine but also dangerous. It is known that 80 per cent of persons with acute gonorrhoea are cured by M & B 693 administration, but this shows itself in a few days. The pain and discharge vanish and the urine becomes clear by perhaps the third or fourth morning. Of the remaining 20 per cent some are failures on account of vomiting, some are resistant for no obvious reason. The course, however, must not be dragged on in such an event. The second point is that most of the sulphonamides are rapidly absorbed and rapidly excreted. Doses should therefore be spread as evenly as possible over the twenty-four hours so as to maintain concentration in the blood at the maximum (10 mgm. per 100 c.cm.) for as long as possible. Small ineffectual doses may lead to the development of resistant microbial forms. For pneumococcal infections M & B 693 should be given in two gramme doses (i.e., 4 tablets) every four hours for three doses. This ensures a high concentration in the blood. Thereafter 1 gramme (2 tablets) four-hourly for two days; then 0.5 gramme (1 tablet) four-hourly for one day, and finally thrice daily for two or three days after the temperature has returned to normal. With this dosage the temperature will fall to normal within twenty-four to forty-eight hours in over 70 per cent of cases.

The vomiting already mentioned may often be prevented by the judicious use of opium given half an hour before each dose of M & B 693. Opium is much less likely to cause vomiting than is morphine, which should therefore never be used for this purpose. The tincture in five-minim doses is given. If the vomiting originates from gastric irritation, it would seem reasonable to crush the tablets and administer them in milk. Until this point has been settled this course is therefore advised.

CHOICE OF SULPHONAMIDE

So much then for the diseases for the treatment of which sulphanilylaminopyridine is the drug of choice. Infections with B-hemolytic streptococci, *Bacillus coli communis*, meningococcus, and probably *B. melitensis* and *abortus* are all subdued by the use of sulphanilamide equally as well as by M & B 693. Because it is less prone to cause vomiting and headache, and as it is cheaper, the former drug should therefore be preferred at any rate for the first three infections mentioned. Proseptasine is equally good for the treatment of

streptococcal and urinary infections, and probably less toxic, but sulphanilamide, or M & B 693, should be employed against the meningococcus. Soluseptasine can be used as an alternative to proseptasine when conditions render the administration of drugs by mouth difficult.

When treating meningococcal, streptococcal or pneumococcal meningitis it is useful to remember that the suitable sulphonamides pass readily, though with slight delay, into the cerebrospinal fluid, and their concentration there runs parallel to, but in a lower level than, that in the blood. Fortunately, therefore, it is unnecessary to administer sulphonamides intrathecally. Sulphanilamide, being soluble to the extent of 8 per cent in cold water, could not thus be given adequately, and the same objection applies to M & B 693. Uleron is a sulphonamide used extensively on the Continent for treatment of staphylococcal and gonococcal infections. Its exact nature is not revealed. It is undoubtedly efficacious in both these conditions, but seems peculiarly liable to give rise to polyneuritis of great severity. This is particularly likely to arise if the course of medication extends beyond five days' duration. Experience in this country is that the percentage of cures of gonorrhoea is appreciably higher from the use of M & B 693 than from that of uleron.

THE 'AGLA' ATOMISER

The value of an atomiser in which all the parts in contact with the medicament are made of glass is at once obvious. The 'Aglā' Atomiser, introduced by Burroughs Wellcome & Co., Snow Hill Buildings, London, E.C. 1, produces an effective vapour-like spray from aqueous or thin oily liquids which come into contact with glass only. The Atomiser is so constructed that the larger globules of atomised liquid are effectively retained, so that only the finer spray is emitted. Having a flat base and being fitted with a rubber stopper, the atomiser may conveniently be used as a container for the medicament. When filling the atomiser the level of the liquid should not be more than half way up the delivery tube. A dropper is provided for transferring medicaments to the Atomiser. The 'Aglā' Atomiser is of particular value for medication by the oral inhalation method, in which case the patient directs the spray into the open mouth, synchronising deep inhalations with sharp compressions of the bulb. This method is being increasingly employed in the symptomatic treatment of mild or moderately severe asthma, the medicament used being solution of adrenaline, 1 in 100. The 'Aglā' Atomiser may also be used with advantage for general medication of the nose, throat and upper respiratory passages.

ALBULACTIN

plus cow's milk
nearest to human
milk.

Albulactin added to diluted cow's milk renders this equal to mother's milk in chemical composition as well as in physiological behaviour.

(Folio Therapeutica IV No. 1)

Of flocculent texture and excellent digestibility.

Cow's milk + Albulactin forms in the stomach a curd of the fine flocculent texture associated with human milk and is digested with the greatest ease.

(Med. Press & Circ., No. 3704)

Sole Agents: MARTIN & HARRIS LTD., Mercantile Buildings, Lall Bazar, Calcutta.



DYSENTERY
SPRUE
COLITIS
DIARRHOEA

THE PHYSIOLOGICAL EFFECTS OF DYSULIN

DYSULIN forms a glutinous mucilaginous coating which adheres to the intestinal tract specially where there are inflammations or lesions. This coating is not only extremely soothing but has toxin absorbent properties, thereby eliminating increase of poison in the system. The ingredients which are germicidal both to Amœbæ and Bacillæ are held by this glutinous coating in close contact with the seat of the disease and thus get full play for their curative action. Finally, whilst the waste products of the body are being evacuated, Dysulin by both its agglutinative and its curative properties promotes the production of formed stools. Dysulin is neither costive nor aperient and thus can never give rise either to constipation or to diarrhoea.

A TRIAL WILL CONVINCE YOU

Powders ... Rs. 1-12 per bottle
Capsules ... " 2-8 "

Write to Department "C"

Dysulin Pharmaceutical Co.,
12-A, Wood Street, - - CALCUTTA

THE MOST RECENT ADVANCE IN THE TREATMENT OF SYPHILIS

THIO-SARMINE

Di-sodium-dioxy-diamino-arsenobenzene-methylene sulphonate B.R.I.

Purest Sulpharsenobenzene Compound
Prepared for the first time in India

LOW TOXICITY
CHEAPEST IN PRICE
POWERFUL SPECIFIC

In the Treatment of Syphilis

In all Stages of the Disease
WITHIN THE SHORTEST TIME

Details about its use and reports of cases treated successfully with the drug are sent free on application to:—

The Brahmachari Research Institute
82-3, Cornwellis St., P.O. Shambazaar,
CALCUTTA

In Gastro-intestinal Diseases



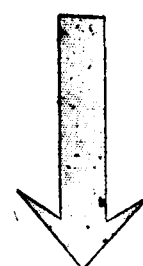
the conditions which must be satisfied by any substance to be administered for therapeutic or dietetic purposes are: freedom from irritating properties, facility of absorption and richness in nutrient elements. These properties are to be found in

SANATOGEN

Prof. Kolle has demonstrated that Sanatogen is lacking in bacilli, and that it does not ferment. It is therefore, very suitable for chronic gastric catarrh. Sanatogen is beneficial in ulcer ventriculi, being easily absorbed and assimilated; it does not irritate and exercises a pronounced sedative influence.

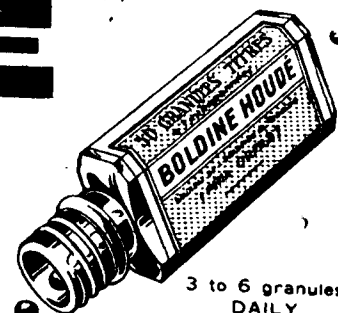
(*Ztschr. diat. & phys. Ther.*, 8, No. 8)

Easily digested & assimilated



BOLDINE HOUDÉ

EACH GRANULE CONTAINS
exactly 0.001 Gm (1/64 gr.)
of active principle



3 to 6 granules
DAILY

**CIRRHOSIS
BILIARY
LITHIASIS
CONGESTION
OF THE LIVER
CHRONIC CHOLECYSTITIS
HEPATIC INSUFFICIENCIES
BENIGN INFECTIOUS JAUNDICE**

Laboratoires HOUDÉ, 9, rue Dieu, PARIS

United French Laboratories, Francis KLEIN, Pharmaceuticals Ltd.
General Distributors - P. O. Box 777 - BOMBAY

4 Caldeferrum tablets daily

THROUGHOUT PREGNANCY & LACTATION

The "key" minerals—iron and calcium—are those most commonly deficient in the average diet. In pregnancy and lactation the demand for them is even more urgent. Unless an adequate supply is maintained, a deficiency of iron and calcium may result in severe debility in the mother and thus prejudice the health of the infant. Caldeferrum supplies in balanced and rational combination—iron, calcium and vitamin D. Four of these tablets daily during pregnancy and lactation form an efficient dietary supplement and will in most cases be sufficient to raise the maternal reserves of calcium and iron to the optimum level.

Glaxo Laboratories Ltd., Greenford, Middlesex, England. Representatives in India: H. J. Foster & Co., Ltd.
P. O. Box 202, Bombay. P. O. Box 2257, Calcutta. P. O. Box 108, Madras. P. O. Box 244, Lahore.

CALDEFERRUM tablets



Whooping cough is under control

Consistent and favourable response to injection of Whooping Cough Dissolved Vaccine (Glaxo) has been effected in actual cases of whooping cough treated during the early catarrhal stage, or at the first suspicion of paroxysmal cough. As a consequence the severity of the illness has been considerably lessened, the disease frequently being aborted. As a prophylactic Whooping Cough Dissolved Vaccine (Glaxo) confers in most cases complete immunity—and in others, even if the disease be subsequently contracted, the attack is usually less severe.

PRODUCT OF THE
GLAXO LABORATORIES

Glaxo Laboratories Ltd., Greenford, Middlesex, England. Representatives in India: H. J. Foster & Co., Ltd.
P. O. Box 202, Bombay. P. O. Box 2257, Calcutta. P. O. Box 108, Madras. P. O. Box 244, Lahore.

WHOOPING COUGH (*pertussis*)

DISSOLVED VACCINE (GLAXO)



a case for the dietician

Diets in India incline towards monotony, which makes their margin of surplus nourishment narrow. Therefore persons who are accustomed to alcohol may very well be dependent on it for some essential part of their food. Prolonged abstinence, without some compensation in the diet, will then cause cumulative deficiency, most likely to come before the physician in the form of gastro-neural symptoms.

In such cases the first necessity is to correct the disorders, after which a revised diet can be suggested for permanent conditions.

Hall's Wine is considered as a combined food, stimulant, and tonic, with few, if any contra-indications. Hall's Wine has a higher calorific value than unmedicated

Wines or spirits, and its added medicaments further improve metabolism. It thus causes more nourishment to be extracted from other foods, while its own principal elements are assimilated without digestive activity. Hall's Wine is exceptionally rich in iron-salts, and is thus an exceptionally rapid hæmoglobin-builder.

The physical effects of removing alcoholic liquor from the diet are impoverished blood, and disturbed digestion, both of which are met by Hall's Wine. The nervous distress often produced is also much relieved by the gentle, positive stimulus it provides.

Where a stimulant tonic is indicated, Hall's Wine may be prescribed with perfect confidence.

HALL'S WINE

Tonic Restorative



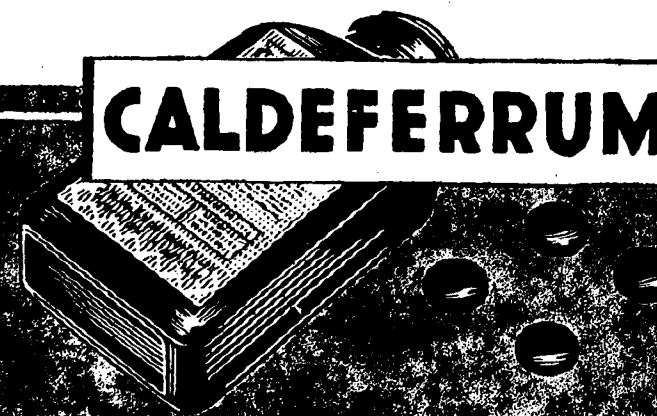
Distributors: J. HALLEY & CO., LTD.

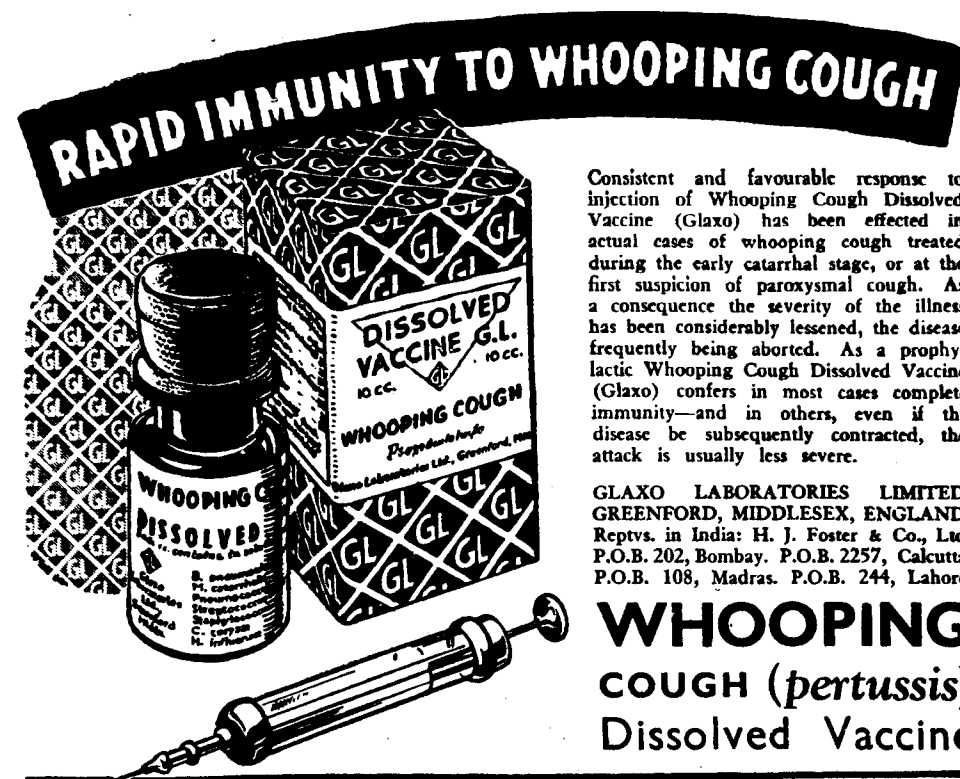
P. O. Box 133, Calcutta. P. O. Box 24, Lahore. P. O. Box 34, Karachi. P. O. Box 404, Bombay.

The "key" minerals—iron and calcium—are those most commonly deficient in the average diet. In pregnancy and lactation the demand for them is even more urgent. Unless an adequate supply is maintained, a deficiency of iron and calcium may result in severe debility in the mother and thus prejudice the health of the infant. Caldeferrum supplies in balanced and rational combination iron, calcium and vitamin D. Four of these tablets daily during pregnancy and lactation form an efficient dietary supplement and will in most cases be sufficient to raise the maternal reserves of calcium and iron to the optimum level.

GLAXO LABORATORIES LIMITED, Greenford, Middlesex, England.
Representatives in India: H. J. FOSTER & CO., LIMITED.
P. O. Box 202, Bombay. P. O. Box 2257, Calcutta.
P. O. Box 108, Madras. P. O. Box 244, Lahore.

CALDEFERRUM





Consistent and favourable response to injection of Whooping Cough Dissolved Vaccine (Glaxo) has been effected in actual cases of whooping cough treated during the early catarrhal stage, or at the first suspicion of paroxysmal cough. As a consequence the severity of the illness has been considerably lessened, the disease frequently being aborted. As a prophylactic Whooping Cough Dissolved Vaccine (Glaxo) confers in most cases complete immunity—and in others, even if the disease be subsequently contracted, the attack is usually less severe.

GLAXO LABORATORIES LIMITED,
GREENFORD, MIDDLESEX, ENGLAND.
Repts. in India: H. J. Foster & Co., Ltd.
P.O.B. 202, Bombay. P.O.B. 2257, Calcutta.
P.O.B. 108, Madras. P.O.B. 244, Lahore.

WHOOPING COUGH (*pertussis*) Dissolved Vaccine

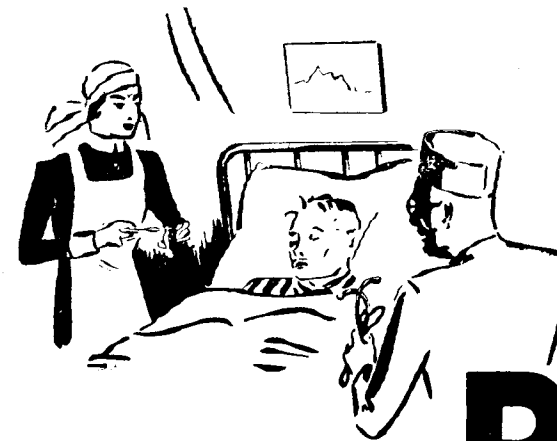
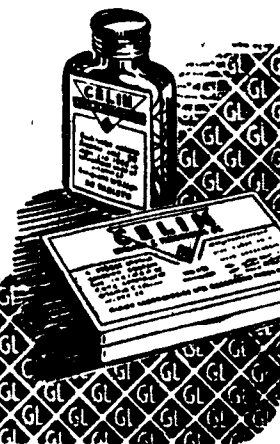
The febrile patient needs vitamin C—Celin supplies it

Vitamin C deficiency is commonly manifested in many diseases endemic in the tropics. In typhoid, malaria, pneumonia, whooping cough, and other fevers—when vitamin C reserves are rapidly depleted—the demand is urgent. The need may be just as pressing in gastro-duodenal ulcer, ulcerative colitis, anaemia, during pregnancy and lactation, and in certain haemorrhagic disorders, when the administration of vitamin C will exert a marked improvement in the patient's condition.

Glaxo Laboratories Ltd., Greenford, Middlesex, England.
Representatives in India: H. J. Foster & Co., Ltd.
P. O. Box 202, Bombay. P. O. Box 2257, Calcutta.
P. O. Box 108, Madras. P. O. Box 244, Lahore.

CELIN

VITAMIN C
(GLAXO)



All your
patients
will readily
accept & enjoy

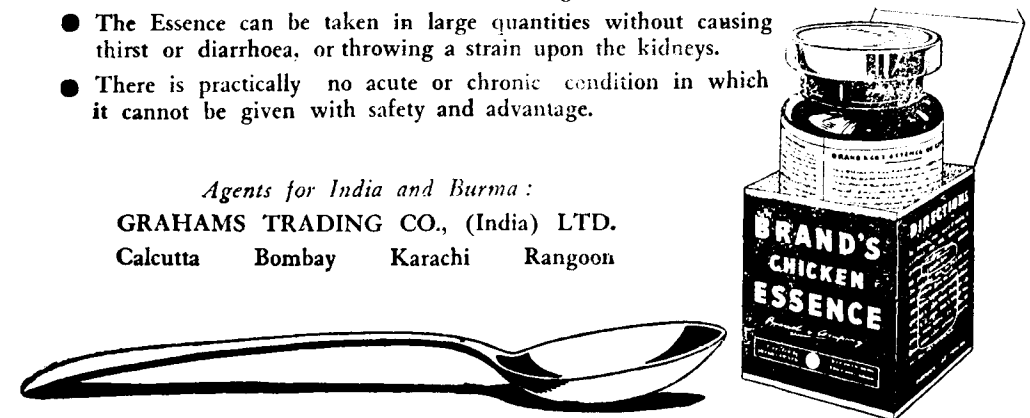
BRAND'S

ESSENCE OF ENGLISH CHICKEN

because—

- Brand's Essence is easily and quickly digested without the formation of any solid precipitate—as may occur in the case of milk, raw white of egg, or even the best home-made chicken broth. Where there is gastric insufficiency, full digestion of these fluids sometimes takes many hours.
- This absence of precipitate at all stages of the digestion of Brand's Essence indicates that the system absorbs it with a minimum of effort. The stimulating properties of the Essence take speedy effect owing to the high degree of solubility of the natural protein.
- Even when the gastric juices are enfeebled by acute and chronic disease, there is always enough of the digestive ferments present to deal with the protein present in the Essence. For this reason, it may confidently be prescribed in conditions involving minor degrees of hypochlorhydria.
- Brand's Essence liberates and strengthens the gastric juices. It provokes neither irritation of the delicate lining membranes of the stomach nor the spurious stimulation induced by alcohol and similarly-acting drugs. Most of the resultant free acid is absorbed by the soluble protein. This is present in sufficient quantity to protect the stomach membranes and thus diminish the discomfort of food digestion.
- The Essence can be taken in large quantities without causing thirst or diarrhoea, or throwing a strain upon the kidneys.
- There is practically no acute or chronic condition in which it cannot be given with safety and advantage.

Agents for India and Burma:
GRAHAMS TRADING CO., (India) LTD.
Calcutta Bombay Karachi Rangoon



TRIPATHI'S GUIDE

TO THE YOUNG MEDICAL JURIST

Cloth bound 432 Pages, Price Rs. 3, Postage extra, Foreign Sh. 7 in advance)

CHIEFLY INTENDED FOR THE USE OF THE SENIOR MEDICO PREPARING FOR THE QUALIFYING EXAMINATION IN JURISPRUDENCE AND TOXICOLOGY, THE RISING MEDICAL NOVITIATE AND THE GROWING LEGAL PRACTITIONER, TO SERVE AS A GUIDE ON MATTERS OF MEDICO-LEGAL INTEREST REGARDING A VARIETY OF CRIMES OF EVERYDAY OCCURRENCE, AND HIGHLY PRAISED BY THE MEDICAL AND LEGAL MEN AND THE MEDICAL PRESS.

REVIEWS AND OPINIONS

The Medical Times, London, June 1936 :—This is quite a unique book. For revision purposes, just before examination, it will be found extremely helpful. As a guide to the young practitioner in medico-legal matters, it will prove to be thoroughly reliable. We have much pleasure in recommending it.

The Medical Review of Reviews, Calcutta :—We congratulate Dr. Tripathi on his excellent compilation. This is sure to prove of very great use not only to senior Medical Students in their qualifying examinations in Medical Jurisprudence and Toxicology, but also to Junior Medical Practitioners and Criminal Lawyers as a book of reference. The price is moderate and we warmly commend the book to the notice of the members of the Medical and the Legal professions.

The Antiseptic, Madras :—This is a very handy book. It will be of great service to all junior medical jurists. It contains very practical information gathered by the author during his thirty years' experience of medical service and from various text books on the subject. It cannot replace large standard works, but it is a collection of matters of medico-legal interest regarding a variety of crimes of everyday occurrence. It will be of great service to all Junior Medical Jurists, to the rising Medical Novitiate, and the growing Legal practitioners.

The Indian Medical Journal :—The book is a collection of all practical and useful material in a condensed form from standard works on medical jurisprudence, enriched with the author's personal experience extending over thirty years. It will prove a useful note-book to Medical Students and a helping guide to both Medical and Legal practitioners. The price is (Rs. 3) very low as compared with the thoroughness with which the subject has been dealt with.

The Burma Medical Times, Rangoon :—The above book, we dare say, will meet with the success which it rightly deserves. The book is a complete guide on Medical Jurisprudence not only to medical men, but it will also be a very safe and useful aid to be put into the hands of medical students. We have no hesitation in strongly recommending the book to all young Medical men and students.

COL. A. HOOTON, I.M.S., SURGEON-GENERAL WITH THE GOVERNMENT OF BOMBAY :—I have now seen your little book on Medical Jurisprudence, and think it is a very useful summary of the subject. I shall have much pleasure in commending it to the notice of Dispensary Medical Officers.

LT. COL. C. I. BRIERLEY, I.M.S. :—A book entitled "TRIPATHI'S GUIDE" to the young Medical Jurist is a very useful book on the Jurisprudence and Toxicology and is intended to serve as a guide on matters of Medico-legal importance.

THE INSPECTOR-GENERAL OF CIVIL HOSPITALS, CENTRAL PROVINCES :—Tripathi's Guide to the Young Medical Jurist is being circulated among all the Civil Surgeons in the Province.

LT. COL. J. B. DALZELL HUNTER, O.B.E., I.M.S., is of opinion that it is no doubt a useful book for reference and will prove valuable to the Medical Practitioners and Students.

COL. C. R. BAKHLE, I.M.S., INSPECTOR-GENERAL OF CIVIL HOSPITALS, PUNJAB :—I have brought it to the notice of the Medical Officers in the Punjab, as an useful work for Sub-Assistant Surgeons.

Out of Stock: Fifth edition of Tripathi's Reference Book for the Young Medical Practitioner

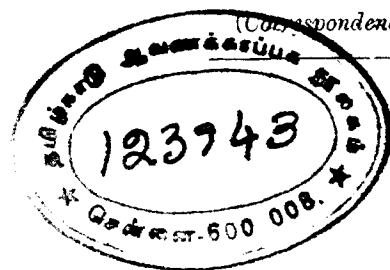
(Correspondence is invited for the printing and publication of the next edition, from those interested.)

To be had from :

MANISHANKER H. TRIPATHI,

Honorary Assistant Surgeon,

Jamnagar, KATHIAWAR.



THE ADVANTAGES OF KELLOGG'S ALL-BRAN IN THE TREATMENT OF COMMON CONSTIPATION



ALL-BRAN is not unlike a sponge in its absorbency and softness and to some extent also the effect of All-Bran on the intestines resembles the cleansing action of a water-softened sponge.

The amazing softness and absorbency of All-Bran is strikingly shown when a small quantity is dropped into a tumbler and water added. It will at once be seen how readily All-Bran takes up the water, forming a large smooth mass.

IN cases of common constipation where it is advisable to increase the intake of "bulk" in the diet, clinical tests show that bran in the appetising form of Kellogg's All-Bran gives the most favourable results.

As a laxative food All-Bran has these advantages :

- 1 The "bulk" in All-Bran is absolutely non-irritant. It is more effective than the "bulk" matter of fruit and vegetables because it is less readily broken down.
- 2 The continued use of All-Bran does not reduce its laxative effect.
- 3 All-Bran is a much richer source of Vitamin B1* than most of our common foods. It is also rich in iron.
- 4 All-Bran is a food rather than a medicine, and in consequence has a helpful "psychological" effect. Patients appreciate the fact that it is a pleasant "natural" treatment which need not interfere with their normal mode of life.

In all cases where an increase in the amount of "bulk" in the diet is indicated, Kellogg's All-Bran may be prescribed with advantage. Eaten regularly, All-Bran promotes thorough evacuation of the bowel contents without a strain on the internal organs.

All-Bran is an attractive, crisp breakfast food, eaten with milk or cream ; or it may be cooked into appetising scones, bread, etc. It may also be taken with other cereals or sprinkled over salads and other foods. To assure maximum effectiveness, plenty of fluids should be taken, preferably between meals. All-Bran is obtainable from all good stores. A packet will be sent free to any qualified practitioner on request from Messrs. Dodge & Seymour (India) Ltd., P.O. Box No. 144, Bombay.

*Two tablespoonfuls (22 grammes) of All-Bran contain about as much Vitamin B1 as 2 tomatoes (99 grammes) or a large serving of lettuce (92 grammes). Laboratory Handbook for Dietetics, Mary Swartz Rose.



