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The Antiseptic

A Monthly Medical Journal

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

CONTENTS

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Index to Contents page 2.—Index to advertisements, 6 & 8.

Index to Contents *(Continued from title page.)*

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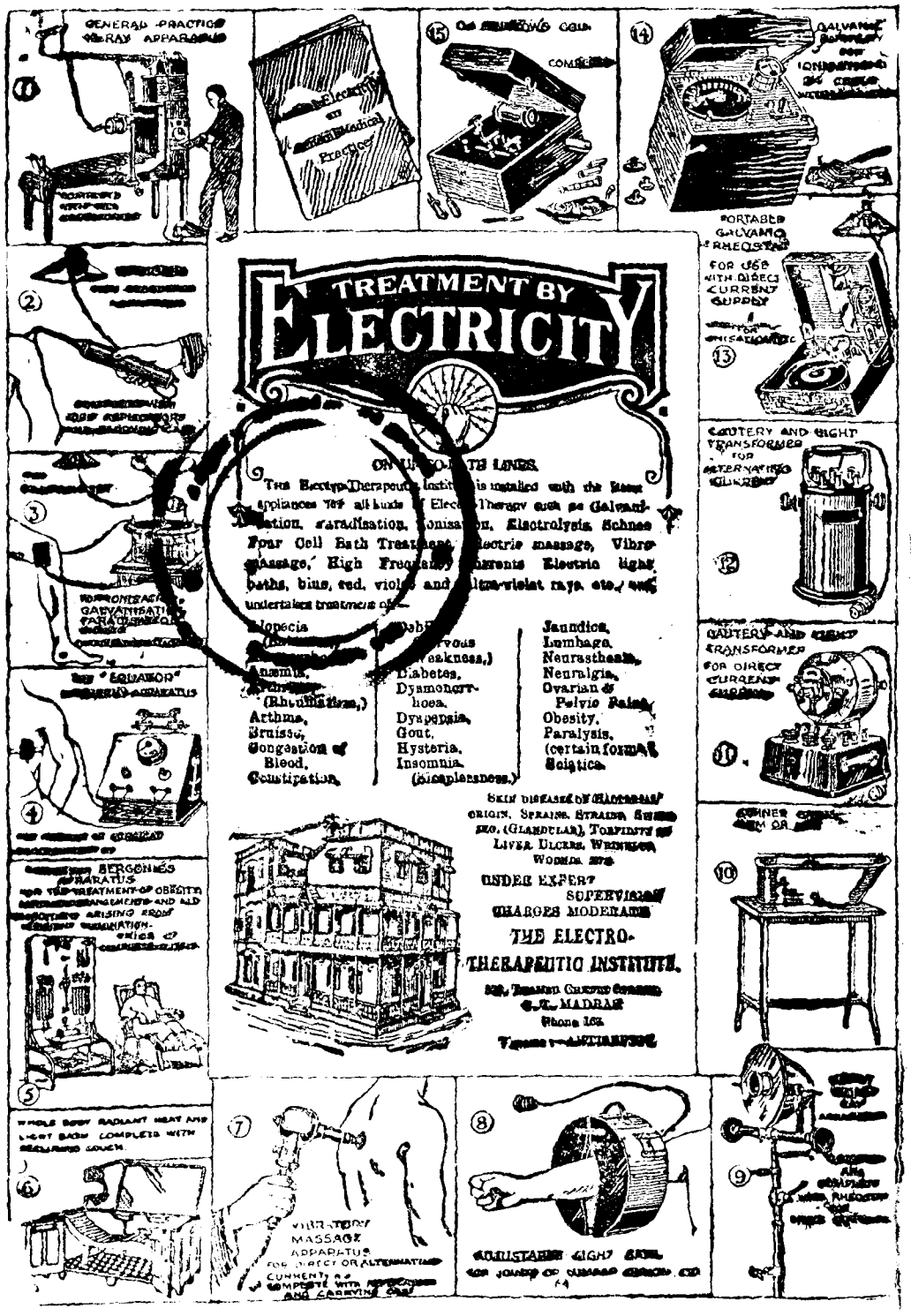

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Original articles

OBESITY AND ITS TREATMENT.

BY

MAJOR P. V. KARAMCHANDANI, M.B.B.S., M.R.C.P.E., A.I.R.O., I.M.S., (Retd.) *Dahu. Smd.*

For Scientific treatment of obesity it is important to understand the mechanism underlying this dyscrasia.

There are six groups of obesity and I shall discuss each one separately along with its treatment.

Hypothesis which postulates a normal mechanism.....a defence mechanism where pluriglandular syndrome plays the central part is termed "Endocrine Obesity." This is a complicated mechanism where the pituitary and the gonads in association with the thyroid possess the power of diverting nourishment towards fat formation when system is repleted.

Syndrome based on inherent familial tendency towards fat formation postulating a condition one step below the diabetic step, on

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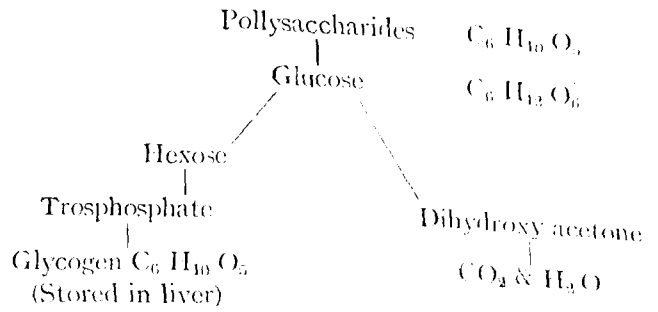
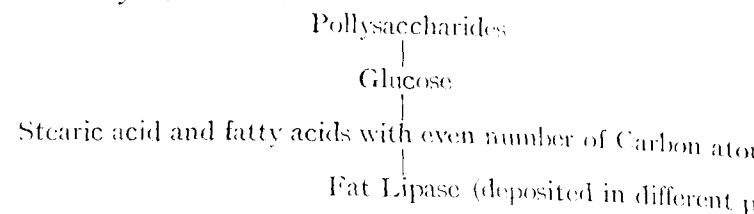
the ladder of metabolic break down is termed "Endogenous Obesity." This is what happens in this condition :—

Normal mechanism ;



Obesity mechanism :



In diabetes glucose is neither converted into glycogen nor in $CO_2 H_2 O$, nor in Stearic acid, but circulated in blood till secreted by the kidney. This "Endogenous Syndrome" with inherent familial tendency is enhanced by dietic repletion and idleness.

These are the two chief classes, but before treatment can be scientific and successful further subdivisions where mixtures occur, have to be analysed and treated.

GROUP 1. CEREBRAL

This is a dysplasic group associated with deformities like syn and polydactylia etc : congenital and of pure hypothalamic origin or in connection with cerebral lesions after apoplectic fits, Syphilis etc : *Treatment* of this group is not satisfactory. Even specific treatment where syphilis is incriminated has not been successful. But practical importance of recognising this class lies in the fact that differentiation of this class, from the Pituitary class where X-ray of the Pituitary does benefit, renders the prognosis of latter more favourable.

GROUP 2. ENDOCRINE

(i) *Pituitary.*—This is Frolich's syndrome where tumour of the anterior lobe of the Pituitary gland or its neighbourhood is postulated. This condition manifests itself in boys, and is more or less a slow disease, with uniform distribution of fat and with hypogenital

functions even cryptoorchism or aplasia. Some times it becomes acute showing symptoms of Cerebral compression, headache, vomiting, vertigo, local vision defects i.e. bitemporal hemianopsia and destruction of the Sella turcica on X-ray examination.

Treatment of this lies in Roentgen rays.

(ii) *Thyroid Obesity.*—This is associated with chronic benign hypothyroidism usually accompanied by some languor, bradycardia, eczimatous condition of skin, sensation of chills, and trophic disorders. This condition responds very well to thyroid. Grains one to two of the thyroid extract should be given twice a day and careful watch kept for tachycardia, polyuria, glycosuria and tremors.

(iii) *Gonadal Obesity.*—Within certain limits this is physiological. The female lays down fat around hips and breasts at puberty when the sex glands develop and assumes the feminine form. But the mechanisms governing the normal may through baneful influence over metabolism show itself in abnormal laying down of fat thus castration in eunuchs shows increase in body weight. Laying down of fat in this condition is of feminine distribution and since it is said to be closely associated with the thyroid and the pituitary, treatment lies in treating it with pluriglandular extracts.

GROUP 3. ENDOGENOUS

This is called "Familial obesity" where the autonomic make up of the nervous system is defective with regard to fat metabolism thereby leading to over accumulation of fat as shown above. Between these two classes the gross pathological endocrine obesity on one hand and familial endogenous obesity on the other, there is a vast intermediary group where gradation occurs with corresponding increase or decrease of either of the two factors.

Treatment of this group consists in treating with (i) glandular extracts (ii) on general principles as laid down below.

GROUP 4. ALIMENTARY OBESITY.

This is more a contributing factor perhaps breaking down the border line of endogenous fat metabolism which may have kept a just balance, had it not been for the handicap caused by idleness and overeating. Alimentary and endogenous obesity for practical purposes may be considered allied conditions.

The proximate principles of diet should be reduced in different proportions.....fat most, protein least. The reason why fat should be reduced most is because fat has a high caloric value, besides the patient has considerable amount of fat already. Protein is reduced least because by virtue of its specific dynamic action it increases

metabolism in body. Carbohydrates should be reduced as much as possible, because the lassitude and hunger arising from over dose of internal secretion of pancreatic insulin in the absence of carbohydrates makes the patient's condition miserable. The caloric value of the diet may have to be reduced as low as 500 calories before the weight shows decrease. Continue the average loss of one to two pounds a week till the patient's weight becomes normal.

Exercise should be judicious, stopping short of shortness of breath, not followed by overeating.

Thyroid extract may be administered directly as an adjuvant because it increases the basal metabolic rate. This is specially indicated when the B. M. R. is low. With normal B. M. R. thyroid administration carries potentialities of doing harm. Thyroid has inhibitory action on pancreatic power of insulin production and also by stimulant action on hepatic power of glycogenlysis it may bring on nemesis in an oldish person with a low sugar tolerance in the form of diabetes. Read's formula under basic conditions is fairly good guide of B. M. R. The formula is as follows :—

B. M. R.=0. 683 (P. R + 0.9 P. P.)—71.5 where P. R.=basal pulse-rate and P. P.=basal pulse pressure.

i.e. difference between systolic and diastolic blood pressure when the patient is kept under basal condition. Insulin should be borne in mind because when the B. M. R. is raised more insulin is required.

Group 5. Adiposas Dolorosa.

This is a syndrome distinct by itself, formerly supposed to be due to pituitary inadequacy but now a pluriglandular, may also cerebral origin. It is characterised by painful deposits of fat with lassitude and pathognomic psychic depression. This condition has not been treated with success as yet.

Group 6. Local Obesities.

(i) *Pseudoelephantiasis of the lower limbs.*—This obesity gives impression of the tissues being rich in water and is reported to have been treated successfully with Novasurol

(ii) *Irregular grotesque forms associated closely with glandular crisis.* These when treated with thyroid have the normal parts reduced in fat without the obese parts having been touched.

(iii) *Lipodystrophia Progressica.* The death head or the upper half of witch and the lower belonging to Venus in Ultra rubins style is well known. The treatment consists in cosmetic injections of face with paraffin. There is no danger to life.

GWATHMY'S TECHNIQUE OF COLONIC OIL ETHER ANESTHESIA.

BY

Dr. B. M. Sivaswami

Washington University School of Medicine,
Saint Louis, Missouri, U. S. A.

As time goes on more and more importance is being attached to the choice of anesthetics and the methods of their employment in surgical operations. And rightly so, since the question of psychic trauma should not be so lightly dismissed as has been the general practice. While chloroform is still the anchor sheet of the anesthetist in India, this dangerous drug has been almost entirely given up in America and Europe, in favour of ether and others of a less harmful nature. In order to prevent or rather minimise the psychic trauma, ether is now being used more and more by the rectal method.

Dr. J. T. Gwathmy of New York has devoted his life time in the field of anesthesia research and has perfected the Colonic technique. It is not only in use in the New York Hospitals but in all parts of the United States. It has been my good fortune to see this technique and watch the operations several times in New York. Dr. Gwathmy has not only taken the trouble of showing me his technique, but has also been kind enough to explain it at length. The average patient in India has a dread of chloroform inhalation, and so in my opinion this method of ether administration, though seemingly very laborious should be adopted in suitable cases. For the benefit of the readers of the ANTISEPTIC, the Gwathmy technique is described here from my notes :

Previous Preparation of Colon and Rectum.

Rectum should be empty, since feces tend to absorb some of the oil-ether mixture ; but drastic and many enemata must be avoided, as tending to irritate the rectum and the colon, and making difficult the retention of the mixture.

1. Give a mild laxative, such as one compound cathartic pill, on second evening before the operation (i. e. 36 hours)

2. Give a soap-suds enema on the evening before the operation

3. Give a tap water enema three and one half hours before the operation. Avoid using soap, since this would tend to emulsify the oil and spoil the oil-ether mixture. Old people may require an enema consisting of Glycerine 60 c.cm with water 180 c.cm. before the S. S. Enema.

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Psychic Preparation.

1. The patient is not informed as to the method of anesthesia to be used. The absence of apprehension in getting 'nerved up' to taking an anesthetic conserves strength and makes for a smoother start for convalescence. The oil-ether enema is described to the patient as some preliminary sedative drug, to make the taking of the anesthetic easier.

2. A hypnotic such as Medinal 0·6 or any suitable dose is given on the evening before the operation, at bed time.

Administration of the Anesthetic.

1. One and one half hours before the operation, insert a suppository of Chloretone 1·0 in cocoa butter in the rectum, as a local anesthetic and mild hypnotic.

2. Fifteen minutes later, give a hypodermic of Morph. Sulph. gr. 1/6 or gr. 1/4 with Atropine Sulphate gr. 1/150. The usual dose of Morphine is 1/6 grain. For resistant individuals and alcoholics gr. 1/4 is required. Children should be given gr. 1/10 gr. 1/8 or none according to their age.

3. One hour before the time of the operation, give the oil-ether mixture per rectum, under the following conditions:

(*a*) Have the conditions all favourable for normal sleep, a darkened room and the maximum of quiet. No visitors, no observers, no conversation. Place cotton in the patient's ear to exclude sound.

(*b*) The patient lies on the left side with the thighs slightly flexed upon the abdomen (Sim's posture). The mixture is then given with a catheter, introduced a few inches within the sphincter, and a funnel.

(*c*) The formulae in use are

Ether	120 c.c.	150 c.c.	180 c.c.
Olive Oil	60 c.c.	75 c.c.	90 c.c.
Paraldehyde	8 c.c.	8 c.c.	8 c.c.

The dose for the average person is 150 c.c. (five ounces) of ether. Old people and frail adults are given 120 c.c. of ether; and vigorous people not necessarily large in size, are given 180 c.c. (six Ounces) of ether. The dose is not based on the patient's weight, but upon his assumed resistance and vitality. A convenient adjustment is to give five ounces of ether and 1·4 grain of morphine; another is six ounces of ether and 1·6 grain of morphine. If gr. 1·6 morphine has been given and the patient is not asleep after 55 minutes an additional 1/8 grain may be given. Alcoholic patients may be given 12 c.c. of Paraldehyde instead of 8 c.c. or Chloral Hydrate 0·6 may be added.

Doses for Children

Ages 5 to 8 years.		Ages 8 to 12 years.
Ether	90 c.c.	Ether 90 c.c. to 120 c.c.
Olive Oil	45 c.c.	Olive Oil 45 c.c. to 60 c.c.
Paraldehyde	5 c.c.	Paraldehyde 5 c.c.

Morphine. Ages 5 to 8 years gr. 1/12 to gr. 1/10
Ages 8 to 12 years gr. 1/10 to gr. 1/8

(*d*) The mixture must be warm; *but do not mix the ether and oil before an open fire or flame.* Shake very thoroughly.

Give the mixture from a warmed bottle, that is wrapped in flannel to keep it warm.

(*e*) Give the mixture slowly,—take 10 to 15 minutes. Shake the bottle very frequently, to maintain the suspension.

(*f*) When the mixture has been given, withdraw the catheter. Place a black cloth or stocking over the eyes, and instruct the patient to try to sleep.

As soon as the patient is asleep, remove the black cloth and cover the whole face with a moist towel to favor rebreathing. If the patient has the desire to move the bowels and evacuate the mixture place a folded towel against the anus and make light but firm pressure. This may counteract the tendency to expel the oil-ether.

(*g*) The patient must remain on the side the whole time prior to operation, to prevent the tongue from falling back. Some one must remain with the patient the entire time. The dangers are excitation and the desire to get out of bed, and difficulty in breathing if the tongue falls back (as with inhalation narcosis).

Surgical Anesthesia and the Operation.

1. The patient may not be deeply asleep, and may yet be in a condition of complete analgesia, so that the operation may proceed without deeper narcosis. Some patients retain the power to understand questions and to reply sensibly, even though complete analgesia is present.

If necessary, a little chloroform may be given by inhalation to *induce* full anesthesia. A few drops usually suffice. The stertorous breathing stage is not desirable, and deep narcosis is to be avoided. As soon as a full analgesia has been produced, it will usually continue without further supplementing by inhalation.

2. Colonic oil-ether anesthesia is essentially not a deep narcosis and this fact must be remembered. Occasionally, during the operation the patient may move or resist in other ways. Usually, he will become quiet again at once, and supplemental inhalations should not be given unless the restlessness continues. It is not a suitable form of anesthesia for a rough surgeon: for manipulations

of a rough character will set up reflex responses that require a deeper narcosis.

3. If the anesthesia is too deep, a rectal tube is inserted and part of the mixture is expressed by pressure upon the lower left abdomen. If necessary, the colon may be irrigated with saline solution.

Danger signals are rarely seen during colonic oil-ether anesthesia. If the operation is of a severe nature and the patient's vitality becomes lowered, the ether dose may become too high for that condition. In this event, a hypodermoclysis or intravenous injection of Ringer's solution will restore the balance, and make the degree of anesthesia less deep.

4. The absence of disturbing symptoms from the anesthetic tends to make the anesthetist lax in watching the patient. This is a grave error. The patient is not likely to show toxic signs but as with patients under anesthesia by inhalation, mechanical difficulties such as a dropping back of the tongue may develop. Every patient in narcosis should be watched continuously.

Post-Operation Notes.

1. At the conclusion of the operation, the rectum and the colon are flushed with saline solution until no more oil is returned. Then *warm*, black coffee 250 c. c. is instilled.

2. The patient usually continues to sleep for a few to several hours. This is not *anesthesia*, for no operation could be done during this period; but it is an advantageous condition, for it enables the first wound reactions to pass without pain, and it allows the remaining ether in the blood to be exhaled, (elimination being mainly via the lungs), in a quiet manner, nausea or vomiting being either wholly absent or much reduced.

3. A valuable attribute of the method is the pleased surprise of the patient on awakening, to know the operation has been performed without his having known anything about, even its beginning.

4. Post-operative pneumonitis is rare; although a transitory albuminuria with casts may occur, it is less in degree because the ether has been well diluted and has passed through the portal circulation before it has reached the lungs and the kidneys respectively. Similarly, this dilution of the ether makes it far less injurious to the important brain centres than is the ether taken by inhalation, which is sent to the brain in concentrated form. The greater length of time required to induce surgical anesthesia in the colonic technique, is by so much a measure of its greater safety.

5. A mild diarrhoea occasionally occurs, but soon passes. Well shaken and well warmed mixtures given slowly, are usually very well borne. To avoid mishaps, it is desirable that one nurse b given the task of administering the oil-ether mixture. Patients witl fissure at the anus should have this corrected before colonic oi ether anesthesia is administered to them. Otherwise a painfu reaction may result.

Note.—In the United States, in most hospitals, specially traine nurses generally do the duty of an anesthetist.

INCIDENTS OF CHOLERA IN THE TOWN OF BURDWAN*

BY

DR. T. D. MUKHERJEE, M.B., D.P.H.

Burdwan, Bengal.

Certain description of the town and its amenities and the specia conditions under which its residents live in Burdwan will not be a useless preliminary to the discussion of the topic in hand. The town is a very old one and like other old towns, it has certain advantage as well as disadvantages. The area of the town is 8·5 square mile and the population is 39201 according to the census of 1931. Th town affords 60449 square feet space to each individual and thus i is seen that the town is very spacious for the population. Th town is divided into five Municipal Wards and though the town i supplied with filtered water, portions of A and C and whole of D an E wards are lying outside the filtered water area and are no supplied with good and bacteriologically pure water. The town i the time of the Hindus flourished most in the portion now covere by ward D by the side of the river Damodar and in the time of th Muhammadans the town was most populous at the furthest end o ward B and now at present the town has been conjested in ward A towards the railway station. The parts of the town flourishing i past times, show the remnants of ruined buildings and those area are now full of jungles and are lying depopulated. It is the tow where the Hindu king lived who after a conquest erected twelv gates as the sign of victory, of which one still exists, majestic thoug in ruins, the repair whereof has been undertaken at the instance o the benign fund associated with the name of our late kind Vicero Lord Curzon. "This gateway now stands in solitary grandeur t herald the fact that at one time there were [redacted] arches erected by the heroic Kirti Chand Rai of Burd[redacted] Baradwari, the entrance into Kanchannagar, the tow[redacted] by himself, and that they were erected to commemorate his victo[redacted] .....about the year 1737 A.D....." This is the town where th[redacted]

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Empress of India "Nurzahan" passed her early married life with her husband Sher Afgan, and the town still holds the remnants of his body in a tomb in the royal burial ground situated by the side of the rivulet Banka in the furthest end of ward B. At present the whole of ward B and part of ward A are most thickly populated. The town thus underwent various changes and is still changing in the way of abandoning old and of occupying new areas. There are innumerable tanks and dobas both large and small, and with the inauguration of water works and modern civilisation these tanks have become causes of nuisance to the citizens. Parts of the town are so jungly that even tiger may live hidden in the bush.

In such a town it is not strange that Cholera would occur in epidemic form. It is known to all that various environments are necessary for the spread of the disease. The Comma Bacilli of Koch the causative organism of the disease require a few contributing factors. Without the presence of the bacillus there cannot be any Cholera, on the other hand without a few fundamental factors the bacilli can do nothing. These bacilli die when come in contact with the acid juice of the stomach but when they reach the alkaline medium of the intestines their virulence is enhanced so much that they kill the host in a few hours. It is thus seen that though a few bacilli get their way to the stomach it may not cause the disease if there is sufficient acid juice present in the stomach. Cholera virus passes through the stomach easily if the stomach is empty or if the digestion is deranged. Thus the causation of the disease depends upon the environments of the host. Generally the persons suffering from defective digestion are apt to get the disease. The soil in them are very favourable for the culture of the seeds of the disease. A few food articles viz. cold drink, raw fruits, foods which cause fermentation or which are difficult for digestion and alkaline substances may favour the attack. On the other hand other foods viz. Lemon juice, cocoanut water, Dahi, and easily digestible foods giving rise to the secretion of normal acid juice from the stomach, may retard the attack. The disease is generally seen to occur in severe form at the beginning of the epidemic, losing its virulence as time passes. This shows that it depends upon other environments also. These are the natural immunity of the individuals and the distribution of Bacteriophages. The resisting power of a persons increases if time is allowed to acquire immunity either by suffering from a mild attack of the disease or by taking the attenuated organisms or its chemical products. It is very probable that a person may take inside his body some dead bacilli or the chemical product when the disease is creating havoc on all sides and he is living surrounded with the dead microorganisms. By recent theory it is also seen that the Bacteriophage increases as time passes. It is found in stools of

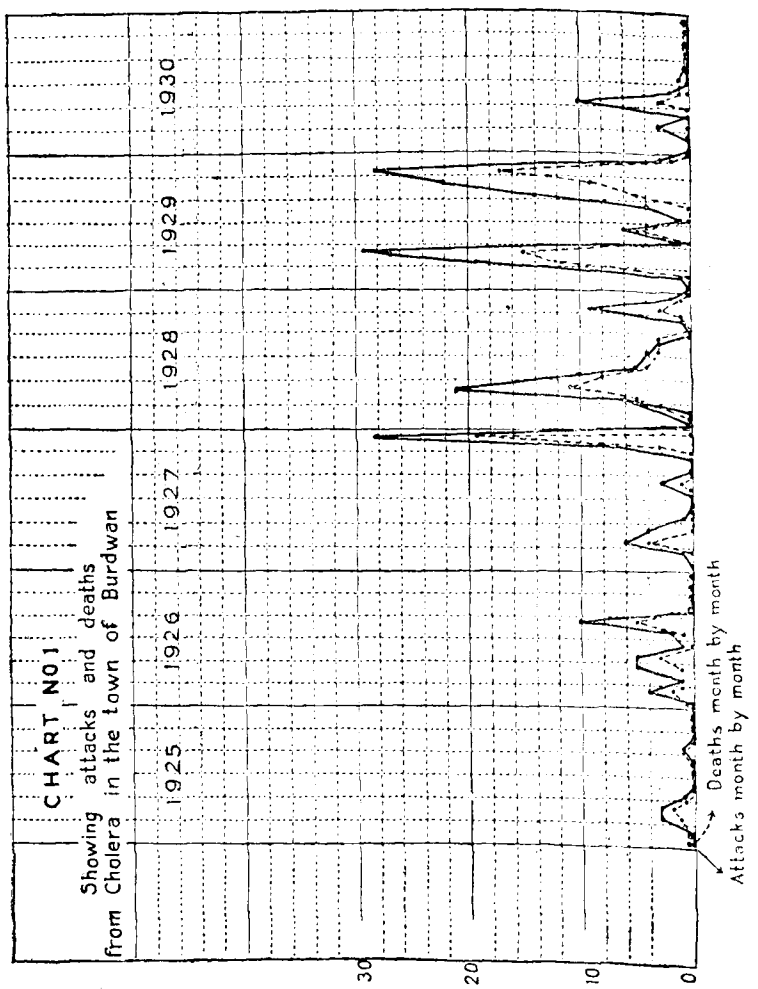

CHART I.

convalescent persons, and the distribution occurs in local water supplies. This Bacteriophage theory is gaining much favour in the recent preventive medicine. The Bacteriophage is destroyed when come in contact with any antiseptic or with direct sun light; and we may hope that in the near future the science of Preventive Medicine which all along teaches us, free use of antiseptic, disinfection of water supplies, and chlorination of tanks, would raise its upright hand to stop its old teachings in the light of the Bacteriophage indicated above. I think it is not a dream that a time is coming when the diluted filtered human excreta would be used as a remedy to prevent or cure diseases causing symptoms due to anomalies of the excreta, namely, Cholera, Typhoid, Dysentery, etc.

In Bengal it is seen that the epidemicity of Cholera rises as the subsoil water falls lower or in other words, "Lower the subsoil water, greater the Epidemic". Thus we see that the first epidemic occurs in the months of April and May—when the temperature of the Dry Bulb rises high, all the collections of water get dried up and the scorching rays of sun burn the skull of the outdoor workers. People cry for a drop of water—there would be seen not a single cloud in the blue horizon; the "yama" (the mighty God of destruction) would find the most opportune moment to send the Cholera so that the poor patient may well understand the need of water in the human system, the diseased fellow would lament for water only, involuntary vomiting, involuntary purging—no tenesmus, no griping—only pain due to cramps and to want of water in the system. The monsoon begins—subsoil water rises—Cholera disappears—Rains stop—subsoil water lowers again another advent of the epidemic in the month of November. I have been observing cases of Cholera in the town of Burdwan for the last six years from 1925 to 1930 and the annexed charts are accurate graphical representation of my observationsf In Chart No. I it will be seen that in every year there is a double rise of attacks from Cholera in the town. In this chart there is another thing which deserves attention—the number of cases has risen year by year up to the fifth year, and then a drop, only to rise again gradually. This periodicity is well known in the case of small-pox. I have observed that Cholera has also the aptitude of this periodicity. The infection rises twice every year and again the rise is highest in every quinquinnium.

This disease is spread from man to man, and by man from place to place. The "Thirthas" (the sacred places) are the endemic homes of Cholera. A person returns from Pilgrimage, carrying the virus in him, comes home, is laid down himself, expires, and the disease is spread. If the time falls within the selected months of the year, then a serious epidemic breaks out carrying hundreds of persons to a further sacred place. Almost in every epedemic the

source of infection can be found out and the first case would be detectable. Unless the causative bacilli gain entrance to a body there cannot be any Cholera. A patient passes the bacilli in his stools and the vomits and a portion of this stool or vomit must be taken by the mouth by another person so that he gets the disease. A few agencies are required to carry the portion of stool or vomit to the food of the other. Flies play an important role, the harmless creature but a serious enemy of human race. Ants may carry the bacilli to human food. Hands of persons, which have been infected with the dejecta may carry the bacilli. A good natured nursing fellow may infect himself if he does not take sufficient care to wash his hands with some disinfectant. There are also a few important mediums. The infected drinking water is an important one, milk when contaminated may cause the disease. Raw fruits, ice-cream, Bazar prepared food articles, are the sources of infection. The sweet-meat vendors are found very reluctant to keep their articles of food inside a flyproof glass case—their foods may easily be contaminated by the flies and the laity who have got very deficient knowledge in the transmission of diseases devour these articles with relish only to feel the serious consequence. The much relished "RUBRI" (milk condensed in semi liquid form—a delicious dainty in our country) once caused a relative of mine, serious trouble. Then come the "Malai Baraf" Vendors, who sell ice cream in one form or other. Generally these hawkers are unclean in their habits; the cream, the hands of the hawker, the water and the pots they use, are often dirty; and these hawkers selling food articles are the source of various gastro-intestinal troubles: sometimes disseminating even the germs of the most fatal diseases.

Next come the carriers in the category of disseminators. They are the principal factors in the spread of the disease and they are much more dangerous to man than even the venomous serpents clad with their fearful hoods attached to their hideous coils. The convalescents should not be allowed to come in contact at least for a fortnight. This rule is often overlooked. There is law for segregation and quarantine of the immigrants but very little care is taken about the convalescent carriers in this respect.

The water contaminated with the stool of a person suffering from Cholera would carry the disease to persons using the same, but the water contaminated with the stools of a convalescent person carrying Bacteriophage would protect persons using the same. Again fly also may play the two opposite phases, it may carry the living bacteria from stool of a patient and after a while it may carry Bacteriophage from stools of convalescent persons. What course to follow then. I shall never say fly may be allowed to contaminate my food whatever quantity of Bacteriophage it may convey. But with the advance or

wholesale inoculation of that Mahallya. The people began to abuse and became very much panic striken, deaths occurred daily and we were at loss what to do. Disinfection, good water supply, taking care of food were done to the utmost. On the fourth day morning the Essential Oil Mixture was distributed in every house. From the sixth day there was no death and the disease was suppressed totally. It may be due to the immunity given by the vaccine or to the immunity of the vaccine helped by the Essential oil Mixture.

MODERN TREATMENT OF BLACKWATER FEVER*

BY

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Nairobi, Kenya Colony.

The introduction of alkaline therapy has very much simplified the treatment of Blackwater-fever. The treatment has been accepted as a routine one and become quite known even to lay public. In Uganda which is regarded as home of Blackwater-fever, patient starts the treatment himself before sending for medical assistance. However, as in India the disease is comparatively rare. I would like to outline the same shortly for the benefit of your readers.

For the purpose of this article, I would divide the course of the disease into three stages and discuss the treatment suitable to each.

During Premonitory stage:—As soon as the premonitory symptoms, namely fever with or without shivering, high coloured urine, pain in the loins and tinge of jaundice, appear, patient should be put to bed and no movement on any account allowed. If medical aid be not available at the place, doctor should be called from outside station but the patient should not be taken down to him. If continuous medical attention requires the removal of the patient, it is better and in the interests of the patient to forgo it. Urine and stool should be passed lying in bed. *Quinine should not be given even in the tiniest quantity.*

At the same time, sips of Soda Bicarb water made by dissolving a drachm of it in a pint of water should be given every few minutes. The supply of this water in abundance forms the sheet anchor in treatment of this and subsequent stages and may even abort the attack. A purgative in the form of Calomel followed by saline should be given to clear the bowels. Plain diuretic mixture as under may be added

*Specially contributed to the Antiseptic.

Pot. citras	gr.xxx.	
,, Bicarb	gr.xv.	
Mag Sulph	gr.xlv.	Each dose every fourth hour.
Spt. ammon arom	m.x.	
Aqua add	oz.i.	
Diet should be limited	Milk with soda is sufficient.	

During acute stage:—Absolute rest and soda Bicarb water should be continued. The latter should be free. Aim at ten pints a day. Every care should be taken to see that the intake does not fall off and for this purpose, it is essential that one of the attendants should be in charge of it. At the same time particularly in severe cases when urinary flow is markedly reduced, continuous rectal saline should be added. At times vomiting comes in the way of any oral administration. In such cases attempts should be made to control the vomiting by allowing tiny pieces of ice to suck. Adrenalin in few minim doses can be given. It serves the double purpose of arresting the vomiting as well as aiding the heart. If in spite of these measures administration of fluid by mouth be not possible, subcutaneous saline with a drachm of Soda Bicarb to a pint, preferably continuous should be given and in severe cases with almost complete stoppage of urine, intravenous route should be selected.

Cupping or poulticing the kidney regions are helpful adjuants in promoting the flow of urine: though rarely required. Drastic measures like electric bath should be avoided on account of subsequent depressent effects.

Cardiac failure is an ever present danger in this disease. It can set in at any stage and is more likely to occcur during this and convalescent stage. To guard against it sugar either in soda Bicarb water or separately should be given. It is in my opinion one of the best cardiac tonics (*not stimulant*) and besides makes up for the absence of food. If heart failure at any time threatens cardiac stimulants should be promptly administered. I regard strychnine as best. It should be given hypodermically in 1/60. gr dose two or more times a day. Caffeine sodii Benzoas, Comphor, Digitalis (preferably Nativellis) are some of other good ones: the first serves also as a diuretic. I have found brandy of great use. Besides its effects on heart it acts as food. It should be given in the dose of one to two ounces a day.

Diet in this stage should be entirely stopped except in form of sugar as mentioned above.

During Stage of Convalescence:— The treatment in this stage is practically the same as in previous one. The supply of soda Bicarb Water should be gradually decreased and entirely stopped after urine has returned to normal in colour and quantity for a fairly

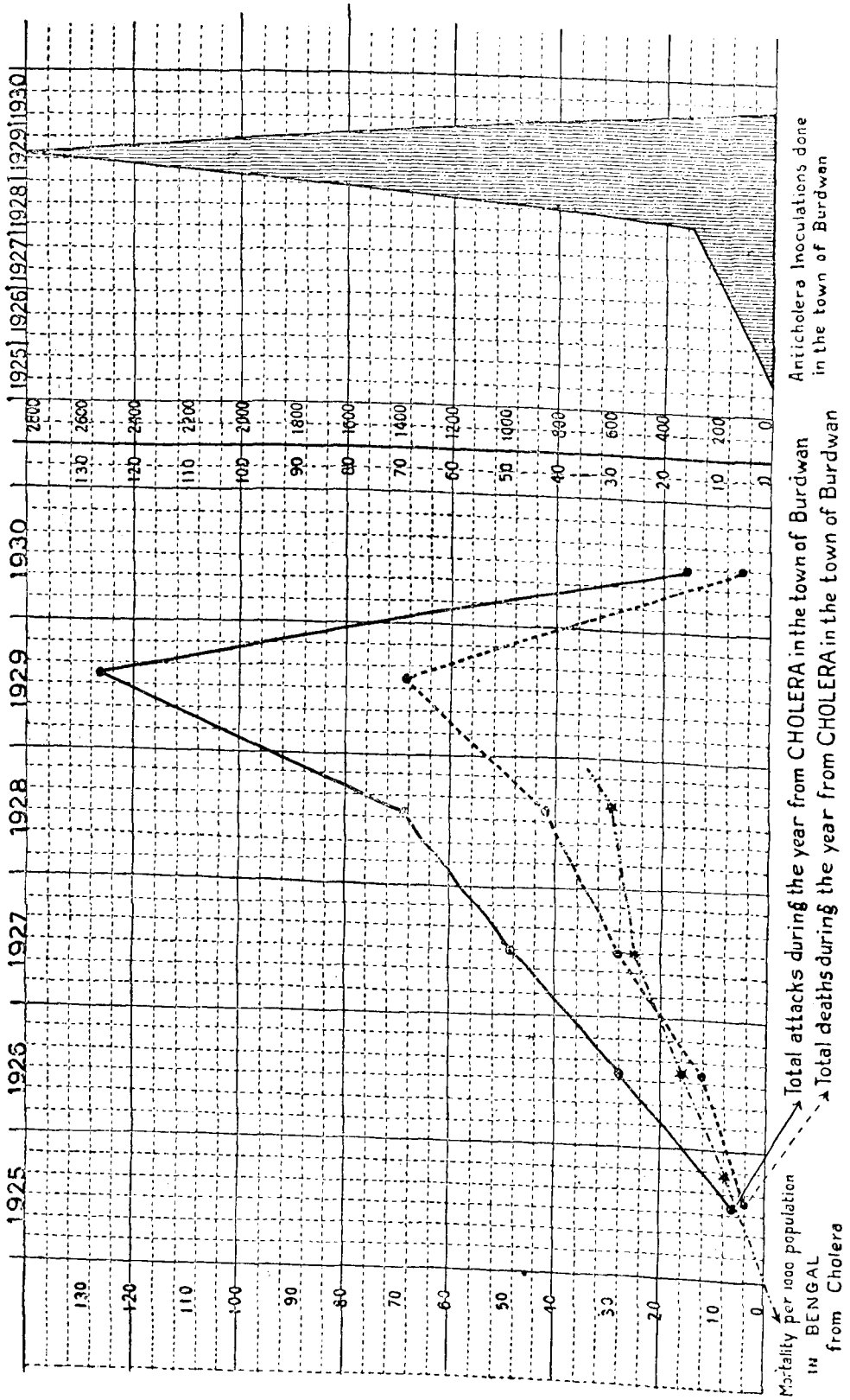

CHART II.

knowledge we would find the vaccine therapy in nature, or in other words we would find the panacea in the excretas of convalescent patients, which would be our internal remedy. We often say that a physician only helps nature and with the advance of science we are going to use that force of nature in our control in the cases of diseases, and modern techniques are leading to that. We were using attenuated or dead bacteria in the form of Vaccine Therapy, and now we are going to use the Phage which Nature has given in the human body itself, to protect it from the havoc done by the virus of a disease. I think this protection of Bacteriophage is increased if the people of the infected locality can be kept cheerful. Most probably the Auto-suggestion also helps in this matter. So in the time of an epidemic we advise people to keep them cheerful by engaging themselves in the performance of "Sankirtan" (chorus Hymns of god) or other forms of religious functions according to the dictates of the different religious sects or communities, so that their minds remain cheerful and gain strength in the prayer to God. People perform "Pujas" and thereby hope for the eradication of the disease. When the danger of the outbreak has become serious in any place, and when a few days have passed and the people of the whole Mahallya have become panic-striken after observing the toll of deaths they gather together, offer prayers and sometimes the result is astonishing,—the outbreak ceases. What is this due to? Is this an instance of Bacteriophage? The matter is worth careful investigation. Personally I have not pursued this matter further and have not been able to come to any definite conclusion.

Of the Preventive measures, disinfection and sterilisation still hold prominent part. The practice of quarantine in places gives good result, but it is attended sometimes with utter failure where the question of carriers comes into play. Next comes the introduction of Anti-Cholera inoculation as a prophylactic measure. We are trying to push anticholera inoculation from the year 1926 in the town of Burdwan. There is still much objection from the people to take inoculation. The figures of inoculation in the town have been shown by Chart No. II. People are still very slow to recognise its value. When a few cases occur in one Mahallya, the people of that Mahallya only take the injections, so the figure is not high. But the effect obtained was very satisfactory. At least the disease was suppressed in that Mahallya. Only one inoculation to a person was practicable and a single dose of 1 c. c. was administered. Sometimes it is seen that just after the inoculation a negative phase occurs and if at that period the person develops Cholera it often ends fatally. If sufficient time is passed to develop the full immunity the result is very striking. The spread of the disease is checked completely. Only in the outbreak cases began to spread even three days after the

long time. Milk mixed with soda may be allowed but progress in diet should be very gradual and in strict proportion to the improvement in urine. Long time should be allowed to elapse before return to ordinary diet.

No movement should be permitted during early stage of convalescence because of danger of Heart-failure, which even at this stage can carry away the patient. However, when convalescence is well established patient may be allowed to sit up in bed. Getting out of bed should be allowed after a long time.

To combat the anaemia due to blood destruction, Iron Arsenic mixture may be given. The same can be given by injection.

No treatment of Blackwater fever is complete till patient can tolerate full dose of Quinine. For this start should be made when patient has fairly recovered with 1/10 gr. of Quinine. The dose should be given three times a day and if no evil effects as shown by the colour of urine, appear, it should be doubled next day and increased in same proportion every day, till in all thirty grains a day can be taken. If at any stage, urine tends to be high coloured and decreased in quantity, the drug should be stopped at once and soda Bicarb treatment immediately instituted.

A NOTE ON DIAGNOSIS AND TREATMENT OF ANKYLOSTOMIASIS.*

BY

DR. N. W. KULKERNI, M.D.,

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Ankylostomiasis is a much commoner cause of the severe types of anaemias than is usually thought of. No diagnosis should usually be arrived at, nor treatment begun until ankylostomiasis is excluded as the causative factor. The symptoms which it gives rise to, are very varied, and a mistake in the diagnosis is not very uncommon. I remember a case in which the disease was mistaken for Chronic Bright's Disease and treated as such, until in the complete investigation of the case ova of the parasite were detected in the patient's stools and the wonderful recovery of the patient who was first thought to be so refractory, was really remarkable. The greatest pitfall in the diagnosis is mistaking the case for one of Pernicious Anaemia. The patient generally shows a puffy face with swollen feet and has a peculiar appearance which is characteristic and often diagnostic. I have come across several cases in which the blood

* Specially contributed to the Antiseptic.

picture very closely simulated that of pernicious anaemia and there was one case in which even the acid hydrochloric in the stomach was absent. The possibility, of course, of an infection with the parasite in a case of pernicious anaemia is always to be thought of in these cases.

The diagnosis is confirmed by the examination of the stools of the patient for the ova of the parasite. A negative result, particularly after one examination, does not negative the diagnosis, for it is important to note that repeated examinations are necessary before the case can be excluded as one of ankylostomiasis. I remember a case in which the ova were detected when the stools were examined for the seventh time in succession. The method of choice should always be the Floatation Method. It is quite a simple proceedure and is as follows :—

The stools are emulsified in a saturated solution of magnesium sulphate to which are added a few drops of ordinary gum solution. The emulsion is centrifugalised at high speed for a few minutes and a drop of the supernatant fluid is mounted on a slide with a coverslip and examined under the microscope. The method should be tried 4 or 5 times at least before a definite negative result is given. Often it is advantageous to take recourse to the concentration method in which the supernatant fluid after the first centrifugalisation is again mixed with the above mentioned solution and re-centrifugalised. The process may be repeated two or three times.

Another method to simplify the detection of ova in the stools of cases where the first examination with the above method proves negative is to administer the Eucalyptus oil mixture.

R

Ol. Eucalypti	...	m xv
Chloroform	...	m xx
Ol. Recini	...	ʒ v

Ft. Misce.

One dose to be given early in the morning followed by another half an hour later. The stools should then be examined both for the worms and the ova.

A still simpler procedure is to administer Eucalyptus oil in 5 minim doses three times a day for three consecutive days and then examining the stools for the ova. I have always obtained very good results with this method.

Of all the various treatments recommended and tried for this disease, none in my opinion is so trustworthy as the one in which Carbon Tetrachloride is given in combination with Oleum

Chenopodium. The only danger is the toxic effect of Carbon Tetra chloride which has often proved fatal in some cases. The symptoms, in some of these cases, have been shown to be due to the presence of Carbon Bisulphide in the drug as an impurity. Yet there is no doubting of the fact that the drug does exert a deleterious action on the liver cells. The drug should therefore be given cautiously in patients with liver derangements. The safest course to follow is to administer glucose before the actual drug is given. I have followed the following routine and had never had a single case with any untoward results.

The patient should not be purged the previous day but his bowels should be opened regularly by a laxative for two or three days previously. The patient should not be starved on the day before the treatment. He should be asked to take a diet rich in carbohydrates.

Next morning, the treatment is given as follows :—

℞

Glucose one ounce

at 6 a. m.. 7 a. m., 8 a. m.,

℞

Carbon Tetrachloride ... ʒ i
Ol. Chenopodium ... m xv
Liquid Paraffin ... ʒ iv
Ft. Misce.

at 9 a. m.

℞

Mist. Alba two ounces

at 11 a. m.

Nothing should be given to the patient except water or milk if necessary. The stools are collected and examined for worms after straining. They are also examined 2 or 3 days after, for ova of the parasite. If they are detected a further course of treatment is given after a week's interval. The drug should not be repeated until a week has elapsed.

THERAPEUTIC VALUE OF INTRAVENOUS IODINE.*

BY

B. BHATTACHARJEE, L.M.P.,

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My excuse for writing the present paper, when intravenous Iodine is supposed to be tried almost universally by the medical profession, is to present short notes of some cases of Pneumonia.

Since the publication of an article by Major Porter I. M. S. in the I.M.G. May 1921, I have been, like many others, an advocate of the Iodine value in septic cases as also in Pneumonia. I claim to have given over thousand Injections of Iodine and the result was not otherwise than satisfactory.

I generally use the following formula as was published in the Gazette. Pot. Iodide 36 grains, Iodum Pure 24 grains, Aqua destl. 1 oz. 1 C. C. of the sol. contains 1 gr. of Iodum. My adult dose is generally 5 minims of this sol. diluted in 10 C. C. of normal saline. Technique of injections is the same as in the injections of other drugs intravenously. The injection is painless, but sometimes a patient may complain of pain, which starts at the site of puncture and travels up the arm to the shoulder-region. But it lasts only so long the injection is continued.

Thrombosis. At the start in two of my cases there was thrombosis. The whole arm and fore-arm became extensively swollen and painful. But it subsided after a few days. I assume, there is slight local thrombosis in a small percentage of cases, as occasionally the same vein cannot be used repeatedly. It becomes thickened, hard and cord-like, when it slips off very easily.

Reaction. In my earlier practice, perhaps owing to bigger dose occasionally there was severe reaction with high temp. 104-105 F. shivering and rigor, lasting couple of hours only, without any more untoward symptoms. With my 5 minims dose there might be slight rise of Temp. with a feeling of cold. It is suggested that more severe is the reaction, the more prompt and quick is the result and it is a symptom to be wished for rather than the reverse. I am sorry, I cannot subscribe to this view. In my opinion smaller dose is equally if not more effective than bigger dose. So one should be particularly careful about the severe reaction specially in Pneumonia cases.

Now, I may be permitted to briefly describe the cases for which I resort to Iodine Injections.

Ulcer and Wound. Any septic ulcer or wound acute or chronic is treated with Iodine with satisfactory result. Slough separates quickly. There is healthy granulation and rapid healing up of the ulcer or wound.

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*Specially contributed to the "Antiseptic."

Cellulitis is treated with every success after two or three injections of Iodine, even extensive swelling subsides within a remarkably short period.

Idiopathic. Oedematous swelling of legs or arms without any pain or tenderness or any enlargement of glands. No cause can be ascertained. I don't know if it is analogous to the term "heat-oedema" as described by Sir Castellani in the Royal Society Meeting of Tropical Medicine and Hygiene in November 1930. He describes it as a climatic disease especially of the Tropics. He suggests no treatment as it is, he says, spontaneously cured after some days. Whatever it is, in my experience couple of Iodine Injections cures the condition within 3 or 4 days.

Scabies. Intravenous Iodine along with local treatment hastens the period of recovery. I have tried Hexamine in 10 gr. doses intravenously with good result.

Water-sore. We the tea-garden employees are particularly concerned with this ailment. A large number of cases used to be kept in the hospital as in or out-patients according to the gravity of the disease. From the industrial point of view, this state of things was a serious loss to the authority concerned. In my experience Iodine Injection shortened the period of recovery and so relieved the distress of this painful complaint. Hence the gain in average number of working days. It is not known to me if others of my fellow-brethren have tried Iodine with any such satisfactory result. I may be permitted to note down in this connection that though the condition of Hook-Worm infection is appreciably improved, still it cannot be said the Tea garden coolies are free from the infection or their habits have changed. Can it be pertinently asked as to why the Water-Sore cases are now-a-days almost a thing of the past, prophylactic treatment, if there be any being the same as before?

Arthritis and Rheumatism. I presume intravenous Injection of Pot. Iodide and Sodii. Salicylas each gr. 10 in 10 c.c. of water alternately with or without 5 to 7 gr. of Sodii. Salicylas in 5 c.c. of water locally seems to have given much better result than Iodine alone. Sodii Salicylas intramuscularly is irritant and painful. By my appreciation of the above method I don't mean that Iodine alone as used in some cases is in any way inferior.

Pneumonia. Our routine method of treatment of Pneumonia, so far I am aware, under our worthy Medical Officer, Doctor W. J. Moloney, M. B., is by intravenous Iodine. Recently I was tempted to give a trial in a small number of cases to Pneumonia Immunogen P. D. & Co. But I am afraid the result was at least no more satisfactory than Iodine. In case it is equally effective as Iodine, still to my mind, Iodine occupies the supreme place. Immunogen costs about Rs. 10 where as Iodine costs not even ten pies, for each case of Pneumonia. In January and February last I treated about 25 cases of Pneumonia. This is very unusual in my hospital particularly in this time of the year. Far more unusual were the nature of the cases, short notes of which mentioned below in a tabular form will speak for themselves. The remaining cases had usual crisis and no comment is necessary.

No.	Names.	Sex.	Age.	Lesion of Lungs.	Treated with immunogen and Iodine.	Treated with immunogen only.	Treated with Iodine only.	General remarks.
1	Shundari.	F	29	Rt. Lung.	Immunogen 6th to 8th day Iodine 12th 13th 15th day.			S-1½" T-N from 19th day.
2	Jharia.	M	32	Rt. Lung Stony dull.	Immunogen 27th 28, 29th day. Iodine 31, 32 & 33rd day.			S-3½" very serious T-N from the 37th day.
3	Ramoo.	B	10	Small patch both lungs.	7 Inj. Immunogen from 30th day. 2 Inj. Iodine.			L-1½" Cancrum oris developed. Died 45th day.
4	Babulall.	M	30	Rt. Lung,	Immunogen from 1 to 5th day. Iodine 9, 10, 15, 16th day.			Very serious. Pot-permag. irrigation and nuclein Inj. T-N from 25th day.
5	Bandhhia's Ch,		5	Left Lung,		Immunogen 7, 8, 9, 12, to 16th day.		T-N from the 17th day Collo-Iodine Orally.
6	Karmi's Ch.		5	Both Lungs.		Immunogen 13th to 18th day.		L-½" Collo-Iodine Orally T-N 27th day.
7	Kusum.	F	28	Double.			Iodine 3rd to 5th day 10 & 20th day	S-2½" very serious Pot-permang irrigation T-N 33rd day.
8	Thake's Ch.		5	Left lung,			Iodine 15th to 17th day.	T-N 21st day.
9	Rebon.	F	14	Both lungs.			Iodine 7th to 9th & 21st day.	S-3" very serious Collo-Iodine Orally Pot-pesmang. irrrigation T-N 24th day.
10	Akhu.	M	40	Both lungs with Pluerisy			8th to 13th 20, 21, 33, 34th day.	Pot-permang. irrigation. Died 39th day.
11	Kallia.	B	14	Double.			Iodine 2, 3, 4, 6, 11, 20th day.	S-3" very serious 2 bloody stools-1½ pt. each Pot-permang. irrigation T-N 24th day.
12	Tetri.	F	32	Double.			Iodine 9th 11th & 14th day.	S-1" very serious 2 Bloody stools 1½ pt. T-N 20th day.
13	Chamru.	M	37	Lungs catarrhal.			Iodine 13, 14, 15th day.	S-3" treated for Mal. T-N 20th day.

I had the privilege of treating a few cases of P. Tuberculosis under the suggestion of my Medical Officer. In none of the case diagnosis could be confirmed by the bacteriological examination. But from the history, clinical symptoms and physical signs Doctor Moloney was strongly of opinion that they were cases of T.B. He was pleased to suggest to continue treatment with half a grain of aquous solution of Iodine (without Pot-Iodide) Injection along with Collosol-Calcium Hypodermically and cod liver oil orally. A few interesting cases, may be cited here as briefly as possible.

(1) Suradhani (F) aged 20. Crepitant rales over the Rt. apex close to the sternum. Gradually emaciated to a skeleton and became hopeless. Got dysentery and was in a dying condition. Dysentery cured with emetine. Iodine treatment continued and temperature came down. Gained flesh and muscles. Discharged after 3 months. Now she is a fatty and fit woman of excellent health.

(2) Jamini (F) aged 13. Fine crepetation over the Rt. apex. Moist rales all over the right lung. Abundant muco-purulent expectoration. Admitted as Pneumonia, Emaciation, hectic rise of temperature all along. Free from fever from the 57th day. Since then she is in a remarkable state of health.

(3) Sadagar (M) aged 45. Crepetations over the Rt apex. Gradually thinner, but not so marked. History of cough for the last 7 or 8 years since after two attacks of Pneumonia and Influenzal Pneumonia. No expectoration. Evening rise of temp. 99° to 100 F. Not being felt by the patient. He was free from fever and other symptoms and health much improved.

(4) Dukhni (F) aged 45. History of cough for the last one year. Bubling and crackling rales all over the left lung as also over a small area of the right lung; plurisy over the front of the left lung. Abundant purulent expectoration. The case is still under treatment Some improvement noticed. Temp. varying between 97 to 98 F. with occasional slight rise up to 99°. Recovery is still doubtful.

Discussion. It is an accepted truth that intravenous Iodine is effective and useful in any septic condition local or general as evident from the successful treatment of septic ulcer or septicaemia reported by the medical profession. Whether it acts by rapid hyper-leucocytosis as described by such an eminent authority as Lt. Col. Jewdwine, I.M.S. or by thyroid-mechanism by liberating "thyro-Iodine" or by any bactericidal power of Iodine, the phenomenon of recovery is still obscure. Every body claims to have got in Iodine a panacea to cure any and every disease. Major J.J.A. Brachio, I.M.D. went so far as to say that he cured small-pox, kala-azar and malaria with every success. Yet another medical man equally eminent and of established reputation is reported to have cured

cholera, dysentery and diarrhoea with Iodine orally (10 minims t.d.s.). With all deference and respect to the authoritative opinion of those renowned medical men, I am afraid they are a bit too optimist.

Iodine is not used for Pneumonia as widely as can be expected. Still the percentage of cure is the same everywhere, whatsoever might be the method of treatment—whether by immunogen, Iodine or Pot. permanganate-irrigation or perhaps without any of these methods. I don't think it hastens crisis or aborts every early case. Now, how far are we justified in assessing the value of Iodine in Pneumonia? I want more light and scientific explanation for its proved merit. As a rationale method of treatment Antiphlogistine claims cent percent cure and we treat every case of Pneumonia with it along with intravenous Iodine. Then how far does Iodine play its part here?

The series of cases I have cited—are examples of success or failure of Iodine. Is it wrong to infer that they really responded to Iodine though late. Or one need not be accused, if he says that they are examples of spontaneous recovery. There are cases of K.A. which do not respond to antimony or any of its synthetical preparation or it may respond to antimony but not to its synthetical preparation. There are cases of malaria which do not respond to quinine though the system may be saturated with it by oral, intramascular or even intravenous administration. It is experienced that the best method to cure these cases is to stop quinine altogether. After an interval of some days or weeks perhaps the fever comes down spontaneously or by a moderate dose of quinine. May I assume that Iodine in Pneumonia has any such anamoly as quinine to malaria. Regarding the T.B. cases I don't mean to say that they were cured, as the infection may continue latent even for a long time with apparent good health. But this much I can say that those cases are free from all symptoms and they are quite fit for active work after the treatment.

I shall be glad to be enlightened if the same or any other method of treatment for T.B. injection has been tried by any of my friends with success.

Point for Elucidation. In conclusion may I enquire why there was prolonged fever without any sign of Pneumonia? Almost all cases were treated for malaria absolutely without any effect.

Collosol-Iodine succeeded where immunogen had no effect.

Pot-permanganate irrigation gives relief and lowers temperature temporarily.

My grateful thanks are due to Doctor W.J. Moloney for his kind permission and encouragement to write out the present paper.

BATHS.*

BY

DR. R. P. SAXONA,

Medical Officer, Pratabgarh, Oudh.

"Baths are one of the essentials of our daily life" was written centuries ago, and the people will be writing the same in centuries to come with perhaps clearer conception, and brighter results. I fully understand that my learned readers are well acquainted with baths, their different kinds, actions and therapeutics but doubt if all of them take full advantage of this as well as most useful therapy. With a view to refresh them with the most interesting subject in question I dare to write these following few notes. Much light has been thrown upon the subject at hand by various learned writers both of the East, as well as of the West, and hence if I quote from any book, I shall be clear to make my learned readers fully understand that I claim no originality.

Definition:—Balneum or Bath means immersion of the body into liquid simply pure or medicated, or the body is subjected to air or vapour. This is '*Local*' when applied to the part of the body and '*General*' when it acts on the whole of it.

History:—The use of baths dates from a very long time and probably arose with the Aryans in the warm climates of Asia. Similar procedures were no boubt independently followed by widely separated people. The Greeks appear to have been the first to employ.

(A) *Baths of dry heated air.* Thermal baths of water or aqueous vapour or hot air baths came in existence as luxuries by the Greeks and the Asiatics. Xenophon, describing the effeminate manners of the Persian, calls them Balneatores. The Romans of the Republic used only cold water of the river and swimming baths, but when they came in contact with the Greeks, they introduced warm baths. The Patricians first adopted the hot air chamber called after its birth place, Laconicum. These were followed by the Thermal of Imperial Rome. These baths fell into disuse in the fifth century partly from cutting of aqueducts by Huns, but they continued to flourish in Alexandria and were adopted by Mohammadons. The baths were brought to Spain by the Arabs. In the 13th century hot air or Vapour baths were common in England and in other large cities of Europe. They were brought to England about two centuries since under the Eastern name Hummun, and once more in their present form as the so-called Turkish bath about 1860. A. D.

(B) *Vapour Bath*:—These were used in early times by Mexicans and North American Indians The Romans utilised the steam of hot springs and set up natural vapour baths. These were also used by the Celts of Scotland and the Japanese are acquainted with this bath

* Specially contributed to the 'Antiseptic.'

long since. The Russians used a bath in which heat was supplied by red hot stones and shots. The Finnus bath is practically the same as Russian bath.

(C) *Douche Bath* (Italian Doccia)—It is said to have been first employed by Pietro Tussignano in 1336. Priessnitez, the father of Hydropathy, utilised a mountain stream discharging from a gutter six feet above the patient's body. Then came the *douche mobile*, which is at the head of balneotherapeutic procedures in France.

(D) *Peat and mud baths*:—The peat bath was introduced at Franzensbad early in the present century and afterwards in Germany at Pyremont. The peat or moor bath consists of an earth or mould formed from disintegrated sphagnum moss and other vegetable matter with or without mineral admixtures. Mud baths are chiefly met at the French and Italian spas, in the Crimea and Baltic provinces, in Norway and Japan etc.

The medicinal use of baths has been alluded to in the Greek mythology. Homer speaks of Andromache prescribing a bath of Hector, and of Penelope using ungents and baths to mitigate the melancholy caused by her husband's absence. Minerva imparts strength to the weary Hercules at Thermopylae spring. Hippocrates recommends warm bath in fevers while Plato speaks of baths as useful in various diseases. So also Asclepiades and Caelius Aurelianus. Aretaeus precribed warm Sulphureous baths in elephantoid diseases etc. Celsus recommends cold baths in fevers etc. Galen followed him. Afterwards came Oribasins, Actius and Panlus Aegineta and later on Arabians, who developed balneo-therapeutic doctrine. Then came at the end of 11th century, Sir James Currie who may be said to have laid the foundation stone of true balneology.

Classification of baths:—Dr. Brunton gives the following classification:—

(i) WATER.

(A) Simple.

Hot

1. Tepid bath.
2. Warm bath.
3. Hot bath.
4. Hot foot bath.
5. Hot Sitz bath.
6. Hot hip bath.
7. Hot water Sponging.
8. Hot water douche.
9. Hot fomentations.
10. Hot water bottle application.
11. Graduated bath.
12. Hot wet pack.

Cold

1. Ordinary full bath.
2. Affusions.
3. Spray or Shower bath.
4. Sitz bath.
5. Foot bath.
6. Hip bath.
7. Cold pack.
8. Compresses.
9. Douches.
10. Ice bags.
11. Cold sponging.
12. Freezing mixtures.

(B) Medicated.

1. Sea bathing.
2. Common Saline bath
3. Carbolic acid bath.
4. Acid bath.
5. Alkaline bath (Nanheim bath)
6. Sulphuretted bath.
7. Mustard bath.
8. Pine bath.
9. Carbonic acid bath.
10. Neem bath.
11. Bran bath.
12. Muriated (brine) bath.
13. Acid boric bath.
14. Creol, vel Picis bath.

(ii) *Vapour*—
- A. (*a*) Aqueous — (1) Russian bath.
- (2) Simple vapour bath
- (*b*) Medicated vapour baths.
- B. Volatilized drugs *e.g.* calomel, sulphur etc.

(iii) *Air*—Turkish Baths.

(iv) *Above all this there are*—(*a*) Peat and mud baths. (*b*) Sand baths. (c) Solar baths. (*d*) Radiant heat baths. (e) Whirlpool baths. (*f*) Mouth and Throat bath.

Classification of baths according to temperatures :—

Very Cold	32 F to 55 F
Cold	55 F to 65 F
Cool	65 F to 80 F
Tepid	80 F to 92 F
Warm (or Neutral 90 F to 95 F) ...	92 F to 98 F
Hot	98 F to 104 F.
Very hot	104 F and upwards (Fitch Med. Formularitz.)

Action and therapeutics of baths :—

(A) Simple baths (cold baths) :—

(a) *Ordinary cold baths* :—The cold bath has a powerful tonic action. They are used for the subsequent exhilarating effects, increased by quick rubbing with a rough towel. Persons in whom a feeling of warmth does not immediately follow a cold bath should not take them. The constant daily use of a cold bath probably diminishes the liability to catch cold. This bath causes capillary contraction and rush of blood to the internal organs especially digestive organs, increasing digestion, metabolism and body weight, and gives tone to the muscles of the body. In order to obtain these effects, the bath should not be continued long after the primary reaction has set in, because, in case it is prolonged, it may cause secondary depression and afterwards delayed reaction. Cold bath deepens respiration and increases hearts' action.

This bath is chiefly useful in pyrexias. There it abstracts heat and thereby lessens tissue change and prevents complications. Therefore it is invaluable in hyperpyrexias of Pneumonia, Typhoid, Typhus, Rheumatic fever and other remittent and continuous fevers.

If the temperature rises the bath may be repeated again. The temperature of the bath is 35 F to 70 F, while the average is 55 F to 65 F.

Cold baths can be used in several ways. The following are in general use :—

1. In India, the people are in the habit of pouring a few lotas full of water over the head and back. This method is practically useless.

2. Bathing in a tub with sufficient water to cover the body in it, may be said to be of some use.

3. Tank bath is better than the above two, more especially if it is combined with swimming also.

4. *River bath*—It is more invigorating than the rest (described above). It thus stimulates digestion, strengthens muscles and gives tone to the body. Swimming adds to its usefulness.

A series of baths increase metabolism and excretion while single baths have little or no influence.

(b) *Cold affusions* :—This consists in throwing 5 or 6 gallons of cold water over the body. It is much soothing and strongly stimulating and is valuable for resuscitating persons from syncope, hysteria sun-stroke convulsions and narcotic poisoning. It may be used with success in all pyrexias of uncertain origin during hot season.

(c) *Cold Spray or Shower bath* : —This consists in water running out of many holes. It is called *Needle bath* when the water is thrown in fine spray. It is an effective tonic and is very useful in hysteria, sunstroke, mania, neurasthenia etc. In using this bath one must see that the shower is of the required temperature (cold 50 F) before placing the patient in the curtain, then turn on suddenly, because the chief therapeutic value of this bath is by its shock. It should not be given when marked heart disease exists.

(d) *Cold Sitz bath* :—Here the temperature of the bath is generally from 50 F to 60 F and the bath is as a rule, taken in closed rooms. In this the patient sits in a tub, in such a manner that his body and legs remain outside the tub which is filled with water in such a way that the water reaches the patient's groins. Now the surface of the parts in water and specially prepuce in male and labia in female is rubbed downwards with a towel while the exposed parts (legs and trunks) are covered with blankets. By this bath the vessels of the cooled surface and the intestines first contract and then dilate, especially when friction is applied. This bath is beneficial in atonic condition of the pelvic organs and other female generative diseases. This bath should not be taken for a long time (ten

minutes at the most are quite sufficient) and should be followed by a gentle walk for some distance.

(e) *Cold Foot bath* :—It tones the system and gives strength to the feet. As a rule, it should be avoided during menstruation. This practice of bathing feet several times in a day, is most prevalent among Hindu females for a long time and hour. Ayurvedic system also advises the same.

(f) *Hip bath (cold)* :—Here also the patient sits in water in such a way that water reaches from middle of thighs upto umbilicus. It is better if friction is applied. As in cold Sitz bath, the vessels of the cooled surface and intestines first contract and then dilate, thus toning the digestive organs. It also strengthens circulatory and respiratory organs and refreshes the brain. It may be used in cases of retention of urine, due to congested stricture or urethral spasm, to promote the flow of urine.

(g) *Cold packs* :—These may be conveninently divided into "Dripsheet" and "Wet Packs." These may on the other hand be applied locally or generally.

Dripsheet :—Dr. Buckley M. D., describes this method as follows :—

"Let the patient stand in a shallow tub containing about a foot of water at 100 F. Wrap a sheet round the patient dipped in water at 75 F (reduced to 60 F at the rate of one or to two degrees a day) in the following manner :—

Place one end of the said sheet under the left arm and hold it in position by pressing the arm to the side ; then carry across the chest and under the right arm well up in the axilla, then round the back over the left shoulder and arm and thence over the right shoulder and arm and as much further as it will go and fix and tuck it carefully round the neck and legs. Now take water (in a basin) about 10 F cooler than used in the back and pour at short intervals over the head and body. Give rapid light friction and slapping all over the body from 5 to 15 minutes according to the bearing capacity and power of the patient. Uncover and then rapidly dry the patient with warm towels, dress and ask him to take light exercise."

The bath is said to be sufficient when the patient emerges out of the bath quite refershed with skin decidedly hyperamic. If he complains of fatigue, it means that he took a long bath. This kind of bath has a very large place in spa treatment. The hearts' action is studied and slowed, the respiration is deepened, muscular capacity is increased and the temperature is reduced. The duration of this bath may be from 5 to 15 minutes shorter for tonic and longer for antipyretic effects ; while modification in temperature of water

and the vigour of function can be modified according to the bearing capacity and stength of the patient. This bath is generally used in melancholia, hysteria, neurasthenia hypochondriasis, anaemia, chlorosis and some forms of neuralgias.

To obtain an antipyretic action, a similar method known as "Sheet bath" has been prescribed to weak and feeble patients. The procedure runs thus :—Take a rubber or oil cloth and spread it over a bed and cover it with a blanket. Take another sheet, wring it out of water from 80 °F to 50 F, and spread it over the rubber or oil cloths. Ask the patient now to lie on this bed with his arms over his head. Now carry the left border of the sheet over the body to the right axilla, and place the lower portion between the legs in order to separate them. Now bring down both the arms close to the side of the body ; carry the right border of the sheet across the chest and neck and tuck on the left side at the neck and round the feet. This being done, apply friction lightly as in the above bath, and pour water 50 F to 60 F with a cup. The duration of the bath is from 5 to 15 minutes. Shivering with chattering of teeth is no indication to discontinue treatment unless prolonged. If you want to increase the antipyretic action you may cover the patient with blanket and rubber sheet and leave the patient for half an hour. Then rapidly uncover. When so desired, dry, dress and send him to his bed. This bath is tonic, soothing and antipyretic and is generally employed to reduce the temperature in hyperpyrexias.

Wet packs :—It is performed as follows :—Two blankets are spread over the bed and care is taken to cover the pillow. Then a bed sheet is thoroughly wet with coldwater and spread over the blanket. The patient (naked) lies flat on the sheet and is wrapped tightly in the sheet and blankets the ends of the sheet being carefully tucked in on each side and the feet covered. (Some say that a hot bottle is applied to the feet, which are not covered by the sheet, and a cold compress to the head). Further the patient is covered with two or more blankets, the face remaining opened. All depends upon the care taken to wrap the blanket so as to exclude all external air. A wet cloth may, if desired be wrapped round the neck. After a short feeling of chilliness, the patient experiences a delightful glow followed by copious perspiration thereby reducing the temperature, dilirium and irritability. The packing is removed after ½ to 1 hour and the patient well rubbed and dried and dressed. This bath is antipyretic and sedative and is usefully employed in specific fevers *e.* g. small-pox, measles, scarlatina etc., to help the development of rash or to bring it out if it has receded. As a sedative it is used in delirium, mania, insomnia, neurasthenia, sleeplessness, excitement etc., and also used in rheumatism, gout, anaemia and neurosis of digestion. For the

antipyretic action, it is employed in hyperpyrexias. Here the pack should be regularly changed whenever the blanket feels warm to the hand placed beneath the body.

(h) *Local Packs*:—Ordinarily known *wet compresses* are generally applied at 60°--70° F to various parts of the body *e. g.* head, neck, throat, thorax, abdomen and joints etc. From two to four layers of old linen are used and cut to the shape and size of the part to be treated. They are wrung out of water, applied and covered with a piece of flannel large enough to cover the cloth from all sides to exclude all air. These packs are used in nearly all those inflammatory diseases which end in "tis" also in Pneumonia, Phthisis, extreme fever etc. For chronic inflammatory condition of abdomen specially chronic congestion of liver in tropics these compresses may be worn from ensiform cartilage to pubis continuously for about a month or so. A good sign, a sort of dermatitis, occurs after a week or so A cold compress may also be applied on the stomach to check obstinate vomiting. To relieve insomnia, these packs should particularly be applied at night.

When continuous applications are to be used, two sets of bandages should be employed and changed daily. The used up bandages should be boiled and between the dressing the abdomen should be well washed to prevent serious furunculosis.

N. B.—In all packs, necessitating exposure of the body the temperature of the room should be at least 70° F. This will help reaction and prevent chill. Linen should be preferred to ordinary cloth. If the former is not available, the oldest cotton should be employed.

(i) *Cold Douche*:—Here a single stream of water is directed forcibly against a part of the body. Its effects depend mainly upon the sizes, height and temperature of the stream as well as the extent of the surface, affected. This douch is employed either as a general tonic or locally as a sedative in inflammatory or febrile conditions, and has been used by the French for chronic neuralgia. The subthermal douche is a valued remedy for degenerative (rheumatoid) arthritis, and for many other chronic joint affections. Considerable importance attaches to the degree of pressure used in the douche-bath. A powerful impact of water is no doubt beneficial to the muscular system. But this should never be used as a routine method. The high pressure douche is not at all adapted to conditions of vascular or nervous debility especially when applied to the trunk. On the other hand large volumes of subthermal water *at little or no pressure* produce a grateful and sedative effect and can be safely and properly applied in conditions of great weakness and in many cases of organic heart affections. Massage can be combined with all forms of the douche, as at Aixles—Banis. The position of the patient is also a point of some importance and a reclining posture is advisable in some cases.

This douche may be applied safely to the following parts:—

(1) *Head*:—In alcoholic coma, headache, narcotic poisoning,

(2) *Spine*—Spermatorrhoea, melancholia, and general debility.

(3) *Liver—Spleen*:—Chronic congestion and enlargement,

(4) *Joints*:—Chronic inflammation and stiffness.

(5) *Perineum*:—Pruritus ani and uteri, piles, spermatorrhoea, prolapse ani etc., by ascending douche.

(6) *Vagina*:—Leucorrhoea, dysmenorrhoea,

(7) *Rectum*—Constipation and haemorrhage, there are some special forms of this douche among which may be mentioned the *douche Ecossias* in which the temperature of the water constantly alternates between hot and cold: the *needle, Spray Shiver and wave douche*, and the *Spinal douche*, also the "*Submarine*" *douche* in connection with immersion baths. Also *Aix or Vichy douche baths* in which a stream of hot water, either in one large jet or from innumerable small ones, passes over the part required.

(j) *Ice bag*:—This is the most effectual way to apply cold continuously, and is made in all sizes and shapes, for application to the head, throat, chest and abdomen. The bag should never be more than half full; should not be placed directly on the skin, but always have a layer of lint between: the cold may be increased by adding salt to the ice. It should not be used when the vitality of the tissues is low or in purpuric affections. It is especially useful for injuries to the head, also to head in coma and delirium, to chest in pneumonia, and in heart palpitation, also to quiet the heart in tachycardia to the abdomen in haemorrhage and to relieve the pain of appendicitis during the preparation for operation, to the thyroid in exophthalmic goitre. It may also be applied to the chest and sucked in bleedings from lungs and stomach as well as bleeding after throat operations. An India rubber bag filled with ice or a closely wound coil of metal tubing (Leiters coil) through which a continuous stream of water is allowed to flow may be applied.

(k) *Cold Sponging*:—This means sponging body with a towel or sponge which has been dipped in cold water, after sponging, the parts sponged should immediately be dried and covered. In this the patient usually sits or stands in a shallow tub or this process may be performed even on a *charpai* if the patient is unable to stand or sit. The action is tonic and bracing and is generally applied to reduce high temperatures especially typhoid fever, and in spermatorrhoea, rickets, chorea, and laryngismus strnidulus. A cold abdominal compress is sometimes applied, to enhance the effect of sponging. The sponging is generally performed as follows:—" take the patient's exact temperature, remove all clothing, and place one

blanket under, and another over the patient, with a hot bottle at his feet. First sponge the face and neck, with tepid water 80°F to 90°F. Always sponge downwards, exposing only the part being sponged. On reaching the feet begin again at the head. After the whole body has been sufficiently sponged, dry lightly, cover with a light warm blanket and leave undisturbed for an hour. Take the patient's temperature immediately after sponging, and again after the hour's rest. Sponging usually causes a reduction in temperature of one to four degrees F. In stronger patient's the water may be used at 60°F; or the arms, back, and chest may be allowed to dry by evaporation. Cooling by rapid evaporation is favoured by the addition to the water of Vinegar, Eau-de-cologne or ammonia.

(l) *Freezing Mixtures*:—This consists of powdered ice 2 parts and ordinary common Salt one part. It is very useful in minor surgery annd chronic rheumatism. Its chief action being anaesthetic but if applied for a long time it may vesicate.

Warm or hot baths:—These too are general and local, medicated or non-medicated. By it's use (a) the dermis is softened and the fatty secretions are liquefied—here it acts as a good detergent in many Scaly and Scabby skin diseases, (b) the local circulation is stimulated and that of internal organs lessened, thus relieving pain of Intestinal, Renal or Biliary Colic, (c) the tissues are relaxed and muscular spasms relieved in urethral strictures, colics, laryngeal spasms, hernia and infantile convulsions etc, (d) the secretion of Sudoriferous glands are stimulated, hence is of advantage in uraemia and many other kidney disorders, (e) it also acts as a sedative in cases of slight shock and general bruising of the body after accidents, (f) assists in the painless removal of extensive dressings which might stick to raw surfaces *e.g.* burn, more especially in children, (g) dilutes toxins and helps in their removal from the body *e.g.* in extensive infected wounds. A warm bath immediately before going to bed will often cure insomnia.

Great care should be taken during and after a hot bath. The patient must be quickly dried, covered and put in a warm bed to help diaphoresis, a cup of hot tea or hot milk or even hot water may be safely given.

Sometimes its misuse or over-use gives rise to "critical fever" or Fievre thermal as is called by the French. This is met under treatment by indifferent warm baths. After a certain number of baths have been taken, a certain languor or malaise is experienced, with muscular stiffness, and recrudescence of former symptoms and occasionally some forms of cutaneous eruption (the so called Poussee.) These phenomena generally indicate an excess of thermal treatment and necessitate its intermission.

(*To be continued.*)

Cases & Comments

HOW TO PRESCRIBE HYPNOTICS AND SEDATIVES.

BY

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Apart from certain well-recognised contraindications, which make the use of certain drugs harmful, most medical practitioners do not seem to exercise intelligent physiological knowledge in prescribing sedatives and hypnotics. The following is an attempt to briefly summarise the selection and use of certain well-known hypnotics and their combinations according to their actions.

The selection of a hypnotic depends upon the nature of the insomnia that has to be combated. We have to differentiate between two distinct groups of sleeplessness: (1) Difficulty in starting the sleep as happens in abnormal irritation of the brain cortex whether due to Psychic or Somatic causes such as pain (2) disturbed sleep—the so-called essential sleeplessness and the sleep of the aged whose cause is to be sought in an altered function of the sleep-regulating mechanism in mid-brain.

The first condition is to be treated with such hypnotics which act pretty quickly, and whose effects do not last long. The purpose to be attained here is to start the sleep, and the sleep centre is then expected to continue the process and prolong the duration of sleep. Such drugs are generally fluid or easily soluble, and favour quick absorption. Among these paraldehyde holds the most important place. Its only objection is its taste. Chloral hydrate in small doses; and in several individuals, diluted alcohol, especially beer has a very good hypnotic effect. The action of beer is considerably enhanced by its content of hops. Other preparations having a selective action as brain-sedatives are Adalin, Abasin, Voluntal, Bromural &c. If somatic pain is the cause of brain-irritation causing sleeplessness, analgesics ofcourse are indicated. If psychic disturbances cause insomnia, those drugs having a pronounced sedative action on the brain are to be chosen. Bromides and Bromine compounds the valerianates, or combinations of these given several times a day work very well in such cases.

In those instances where sleeplessness is caused by a diminished function of the sleep regulating apparatus in mid-brain, we have to choose such hypnotics as possess very little action on the cortex, but

have a more pronounced action on the deeper centres of the brain. One of these is the chemical substance known as Trichlor-iso-butyl-alcohol, commercially called Tributan, which was worked out in the Phamacological Institute of Vienna; Luminal, Luminal-Sodium, Veronal, Medinal (Soluable Veronal-Sodium) Paranoral, and their combinations and derivatives. It would take more time than a practitioner can afford to go through the list of such drugs, as are being poured out into the market: It is therefore wiser to learn the action of a few, and stick to them as far as possible.

There are cases where sleeplessness is due to a combination of both the causes above mentioned. Here we have to make use of a combination-therapy. Such a useful combination is afforded by a mixture of Paraldehyde and Luminal. Sometimes the Paraldehyde may be replaced by chloral or bromide or Valerian: a rather interesting principle is involved in combining caffein with these hypnotics. Caffein, is well-known to have the power of producing insomnia, by a specific action on the cells of the brain-cortex. But the combination of hypnotics with caffein, allows the hypnotic to act quicker than otherwise because of the action of caffein on the blood-vessels of the brain, making the entrance of the sleep-producing drug into the nerve cells quicker and easier.

NOTES FROM HOSPITAL PRACTICE.

BY

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(1) ANAPHYLAXIS AFTER MILK INJECTION.

A Mohamedan male aged about 40 years was admitted to the hospital for swelling of his left ankle joint which was subsequently diagnosed as "Tubercular arthritis." He was first given a course of milk injections twice a week in doses of 3.5 c.c., 5.c.c., 7.5 c.c., 10 c.c. and thereafter 10 c.c. throughout. Fresh milk was vigorously shaken in a test tube and all the fat removed. The test tube with the defatted milk was then placed in a water-bath taking care that the tube did not touch the bottom of the bath. The milk was allowed to stand for half an hour in boiling water and then cooled and injected intramuscularly in required doses. In intramuscular injections, special care was taken, by withdrawing the piston before injecting, to see that the needle had not punctured a vein. The site selected was always the upper and outer quadrant of the hips. No anaphylactic symptoms were noticed during the first ten injections nor was there any reaction. During the 11th injection, even before the injection could be completed, the patient complained of excruciating pain commencing at the site of injection and running down the back of the lower extremity. He immediately developed the following anaphylactic symptoms. Face became flushed and red as also the front of his chest. The body was rather cold, trembling and covered with perspiration. Pulse was feeble and rapid. He would not talk or answer questions. Tears were pouring from his open eyes. He was making a peculiar grunting noise characteristic of respiratory distress and agonizing pain.

1 c.c. of Adrenalin was at once injected subcutaneously and 1 c.c. of camphor in oil (camph. 3 grs.) was also given by the same route. Hot water bottles were applied to the site of the injection and to the feet. The patient was alright after about half an hour though he complained of pain for some hours.

The interesting feature of the case is that the patient developed severe anaphylaxis after 10 injections and especially after seven injections of the same dose as that of the 11th.

(2) QUININE AND URETHANE INJECTIONS IN HYDROCELES.

Quinine and urethane injections for hydroceles were tried. The technique was as follows:—The serum from the tunica vaginalis was first drawn off with a 10 c.c. record syringe. The syringe was then removed leaving the needle in situ. The quinine and urethane solution, (P. D. & Co's) 2 c.c. was drawn into a 2 c. c. record syringe. The syringe with the solution was fitted on to the needle left in the scrotum and the solution slowly injected. The needle and the syringe were then withdrawn and the puncture was sealed with collodion. A tight scrotal bandage was then applied and the patient put to bed. Generally the patients complained of moderately severe pain after the injection which subsided after an average of 3 to 4 hours. No case showed any reaction. The bandage was opened after a week. If the scrotum showed still some effusion, the injection was repeated, the technique being as before.

Parke Davis & Co's Index of Therapeutics and Materia Medica (1930-32), page 76, contains the following note about Quinine and urethane solution: "Quinine hydrochloride and urethane has been successfully used as a sclerosing agent in varicose veins. Injected intravenously it produces endothelial irritation which results in clotting and obliteration.

The idea underlying the injection of quinine and urethane solution into the hydrocele sac is twofold viz. (1) the irritation and inflammation, produced by the solution on the inner surface of the sac, whose walls are now in apposition on account of the withdrawal of the fluid from inside, may lead to adhesion of the walls and obliter-

ation of the sac and (2) the veins in the walls of the sac may get sclerosed and obliterated preventing any further effusion.

As the number treated was small, no definite conclusion could be drawn. It may, however, be stated that the smaller hydroceles may successfully be treated with injections of quinine and urethane solution while the larger ones may not be benefited by the same.

My grateful acknowledgements are due to my former chief, Dr. H. T. Ince, L.M.S.S.A. (London), Medical officer, Alipuram Jail, Bellary.

A CASE OF BRONCHIAL OBSTRUCTION WITH CLOVES

(*Lavanga*).

BY

SISIR KUMAR GUPTA, M.B.

Jamalpur, Burdwan.

One day I was called upon to see a boy of ten suffering from (1) Fever—intermittent for first three days then became remittent (2) Dry cough. Duration 6 days.

On examination my findings were as follows—Temperature 104 F. Pulse 136, per minute, regular. Respiration 44 Per minute. Thorax moving equally on both sides with respiration except over the left apex which was dull on percussion, breath sounds much diminished, V. R. diminished, and no adventitous sounds heard over the part. Heart sounds were normal and no displacement of the heart was found. Spleen—enlarged and tender. Throat normal.

I Diagnosed the case as Pneumonia with Malaria and treated as such.

The boy became a febrile in 10 days time and after a few days resumed his studies, but his left apex remained almost the same as before. The complaint his guardian made, was that the boy gets tired on slight exertion and a hissing sound like asthmatic is heard when he sleeps.

I asked his father to take an X'ray Plate on that part but he did not.

Few days after, the boy's father came to me with sodden cloves (*Lavanga*) which, he said came out while the child was coughing. There was no history of his chewing cloves during or after the fever. I examined the patient again 4 days after this incident and found to my utter surprise that the lung had resumed almost its normal condition. The boy is now doing all his work without any discomfort.

A CASE OF TRIPLETS

BY

H. KARNIK, L.C.P.S.,

Sawantwadi.

Mrs. B. Multipara of the age of 32 was admitted into the Rani Jankibaisaheb Maternity Home, Sawantwadi on 18—9—31 at 3 A.M. for labour, the woman was supposed to be in her 8th month of pregnancy, and as she was feeling bad was brought to the Maternity Home by a local Dhai who was attending upon her.

Soon after admission a child was born presenting breech, as the child weighed only 2 lbs. There was no difficulty in the management of the labour, and after some time a foot was seen presenting. This second child was also delivered safely and weighed only 2½ lbs. It was thought that everything was over and that it was a case of twins: nothing happened for 15 minutes, but the placenta did not come and as there was little bleeding, an injection of Pituitrin was given. Soon after this a third child was born presenting by vertex. This child weighed 4½ lbs. after birth. All the three babies are girls and are alive up to this time, although the first one weighed only 2 lbs. and seems to be not doing well.

EXAMINATION OF THE AFTER-BIRTH.

There were seen two seperate pieces of placenta joined together by thin membranous structure. It was found that there were two babies in one bag of membrane with two separate cords attached to one placenta. These babies weighed 2 lbs. and 2½ lbs. respectively, and there was another separate piece of placenta and a bag of membrane from which the third child weighing 4½ lbs. was found delivered.

History of the patient. The patient had four normal deliveries before, 2 girls and 2 boys. The patient was feeling very funny since the 4th month of pregnancy. Her heart, she said was beating very rapidly. There used to be too many movements at times and absolutely no movements for some time.

POINTS OF INTEREST.

Was the case of a (i) uniovular development, (ii) biovular or (iii) super foetiations. Although medical opinion here differs I am personally inclined to believe that it was a case of uniovular development of the twins in one bag of membrane and same sex, and the third with a separate placenta and a bag of menbrane seems to me to be superfoetations.

CONVULSIONS IN CHILDREN

BY

DR. PANNA LALL, M. O., *Gujranwalla, Punjab.*

The malady has been variously classified and with different meanings attached to the same terminology. The chief distinction, however, being between an attack dependent upon diseases of brain or spinal cord as complication.

These can be classified as idiopathic and symptomatic convulsions. It is the second variety that I want to discuss.

Causes. Heredity, Congenital, Temperament, Rickets, Delayed Dentition, Intestinal worms, Hard foecal matter in the intestines, Prolonged Diarrhoea, High fever and Fright.

Symptoms Sudden loss of consciousness, sensibility with colonic spasms the cervical and Dorsal muscles become rigid. The thumb wrist and ankle joints flexed inwards.

The pupils may be contracted or dilated or one may be contracted and the other dilated.

Pulse is quick. The child is restless as a rule, more feeble is the attack the longer is the duration and sometimes it lasts several hours.

Diagnosis. It is not very difficult.

Prognosis. If the convulsions are recurring rapidly the prognosis is bad otherwise it is always good.

Treatment. It will vary according as we are called during the fit or during an interval. If we see a child during the attack it is advisible to loosen the clothing about the neck, chest and waist, to raise the head and to admit plenty of fresh air. If the convulsions in your presence are due to irritation of the bowels try an enema especially when there is dysphagia.

Place the child in a warm bath in order to excite cutaneous circulation and relieve internal irritation, cold water on the head at the same time. When the paroxysm has subsided and the irritation is due to the gum and dentition, lancing may afford relief. A gram or two of calomel placed on the back of the tongue may do good to the small intestines.

Bromides and chloral hydrates should be tried

℞

Pot. bromide	ss. 3
Chloral hydrate	gr x
Spt. am aromaticus	m xx
Aqua	3 x
Sig	3i every 4 hrs.

After the cessation of fits Syrup ferri Iodide, Syrup Ferri Hypophosphates should be given whilst a sedative should be given at bed time to promote sleep. Diarrhoea and worms should be treated. The parents of the child are very much alarmed when they look at the child during the attack. Much of the worry is saved if they are told at the very outset that never has a death occured due to this disease.

The Antiseptic

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INDIAN MEDICAL COUNCIL BILL

At long last, the Government of India have come out with their draft Bill 'to establish a Medical Council in India and to provide for the maintenance of a British Indian Medical Register' and have circulated it to all Local Governments and Medical Institutions and Associations, for eliciting opinions thereon. It is regrettable to note that the Medical Press have been totally ignored by the Government of India or by the Local Governments to whom the task of circulation appears to have been assigned. The Medical Press in this country, more especially the organs of the Independent Medical Profession, have a long and reputable standing and following and the Government would be well advised in future to consult them also in all matters of moment, such as this, touching the Medical Profession generally.

This Bill is in our opinion both retrograde and reactionary. The object of the Bill has been clearly and unequivocally set forth in the preamble of the Bill which runs as follows:—

"Whereas it is expedient to establish a medical Council in India and to provide for the Maintenance of a Register of qualified practitioners of modern scientific medicine in order to establish a *uniform* minimum standard of qualifications in medicine for all provinces such that persons attaining thereto shall be acceptable as Medical Practitioners throughout British India: It is hereby enacted as follows".

The provisions of the Bill, however are quite at variance with the principles enunciated in the preamble. The Government of India have, in their letter accompanying the Bill No. 1494-H dated 31 Aug '31 unmasked themselves and appeared in their true colours when they said 'if Indian Medical Students were to be relieved of the hardships to which the decision of the General Medical Council exposed them, it was imperative to resume consideration of the proposal for the establishment of an All-India Council, as the creation of such a Council offers the best, if not the only prospect of again securing the General Medical Council's recognition of Indian degrees.' The sole object of the Bill is thus to create a body of Medical Graduates with a clear official majority, to act as intermediary between the General Medical Council of Great Britain and the various Indian Universities, to inspect and report through the Government of India to the various Provincial Governments the adequacy or otherwise of the the standards of the examinations conducted by the Universities and thus placate the irate General Medical Council of Great Britain and make them recognize the Indian University medical qualifications. With regard to the control of Medical education and the establishment of a uniform standard of qualifications in medicine for all provinces, the Bill is so drafted that provincial powers are affected as little as possible. The hand of the Provincial Ministers is visible in every line of this Bill. They would not part with their power easily and would not allow the Licentiates their legitimate place in the All-India Register. 'The question of bringing licentiates' observes the Govt. of India's circular letter, above quoted 'within the scope of the All-India Council was raised in this Department letter No. 903 H dated 23 May 1928; the opinions then expressed were with very few exceptions in favour of confining the council to dealing with Graduate qualifications. The conference of June 1930 was also of opinion that the Council should at any rate at the start deal only with such qualifications and the Government of India think that in the present state of Medical education in the country there is much to be said for that view. Organizations of Licentiates have however petitioned the Government of India that they should be brought within the purview of the council from the start. The Government of India will therefore be glad to be favoured with the Local Government's/your opinion on the subject." The door is therefore not altogether closed against the Licentiates. In as much as the Bill aims at the registration of all qualified Medical Practitioners in this country and the establishment of a uniform standard of qualification, the Licentiates who are qualified Medical Practitioners and the raising of whose qualifications is being seriously discussed and considered by every Provincial Government now, should be included in the All-India Register from the start. Otherwise they will have no hand, whatever in the shaping of their own destinies and the principles adumberated in the Bill are mere pretensions. Precedents are not wanting whereby Medical men with inferior qualifications have been clubbed with those possessing superior qualifications and their names entered in the same register. The British Medical Act of 1815 included all Medical men, even Apothecaries in their fold and lay men too were nominated to the Council so as to give the council a democratic touch. While, in our own Provincial Medical Councils, the Graduates in Medicine, with superior British qualifications are entered in a common register and sit with the Licentiates in the Council, what objection can there be to one Licentiate elected from each province sitting with the graduates in the All-India Medical Council and the whole body of licentiates in the country finding a place in the All-India Register? This invidious distinction between graduates and licentiates must go and the All-India Medical Council must be representative of all qualified Medical Practitioners in this country from the start and it will be open to the Council at any future date to ask any Medical institution to raise the level of the licentiate qualification, so that it may be in conformity with graduate qualification thus entitling the holder of the diploma to enrolment in the All-India Register. The preamble of the Bill would be meaningless if the Bill should exclude the Licentiates, and if the Govt. of India should still persist in excluding the licentiates, the preamble must be completely altered.

The fate of the Licentiates is now hanging in the balance. They must start at once a wide-spread agitation all over India and to continue it unabated until they gain their end. We hope the Medical Graduates will also help their ill-fated brethren in their hour of trial and not leave them in the lurch, mindful of their own interests. After all, the Bill does not give the Council a free haad in the matter of the control of Medical Education in this country, and without that control the council will prove to be a big farce. Furthermore, the council bids fair to be an official-ridden body with the Independent Medical Profession scarcely represented in it. Such a body will always be under the thumb of the Governor-General in Council, and will prove to be nothing but a meek substitute which the British Medical Council has accepted for 'the fat-salaried single commissioner' which they had proposed, to inspect Medical examinations in India, but rejected by the Indian Legislature.

With this perface, let us now proceed to discuss the bill, clause by-clause.

Clause. 1. The title of the bill as its stands, seems, to us to be a misnomer. "This Act may be called the Indian Medical Council Act."—so runs clause 1. sub section 1. As all medical men in

British India are not represented in the council and the council has only a restricted scope intended only for graduates in medicine, it is an anomaly to call it an Indian Medical Council. The licentiates in British India, who are also medical men practising the Allopathic system, have a right to protest against this title, which seemingly includes them but in reality excludes them altogether. Call it 'The Indian Medical Graduates Council' or by any other name and not the 'The Indian Medical Council', so long as a section of medical men have no part or lot in it.

Clause 2. : This clause relates to definitions of which we need not worry ourselves much.

Clause 3 (1) Sub. Clause (a). Provides for the nomination of the President. This power of nomination, it is said, is to be vested perpetually on the Governor-General in-Council. This is flouting the opinion of even the conference of Ministers held at Simla which recommended the nomination of the President only for the first three or five years or in other words for the first term of the council whatever that be and his election thereafter. We are at a loss to understand the implication of the use of the word 'perpetually' there. Evidently the Hon. Member in charge of the Bill must have serious misgivings about the success of the Round Table Conference and the advent of Swaraj to India in the near future. Otherwise, he would not have used the word 'perpetually' there which would be meaningless. We must oppose Clause 3 (1) (a) and adopt the alternative clause 3 A sub clause (2) which provides for the election of the President after five years.

Clause (3) (1) Sub. Clause (b): Provides for the nomination of one member from each Governor's Province, by the Local Government. This in our opinion is quite unnecessary and as observed by us already, this is intended merely to placate the Ministers of provinces—our brown bureaucrats. This will come up to 8 official nominations and with three members to be nominated by the Governor-General in Council under clause 3 (1) (e) will make a total of 11 against 28 members who compose this council. At least 50 per cent from of the other two constituencies under clause 3 (1) (c) & (d) will be officials and we may roughly put that figure at 8. Thus, the council will have a clear official majority of 19 against 28, which is undesirable. This clause therefore must go.

Clause (3) (1) Sub. Clause (c): "One member from each Governor's province, to be elected from amongst themselves by the members of the Medical Faculties of British Indian Universities within the province." This clause is unintelligible. We don't want to deprive any university of its legitimate functions. This question of an enlarged council sometime later, in the event of more Universities springing up need not bother the Government at present. The General

Medical Council of Great Britain consists of 42 members and why should India alone have restricted membership, we cannot understand. Every University which has Medical faculty attached to it must have separate representation. Here again the Government of India are flouting the opinion of Provincial Ministers at conference, who derired that every University in India not merely British India should be represented. But as this Act extends only to British India, we must be content for the time being only with British Indian Universities which have Medical Faculties attached to them. The alternative proposal in Clause 3 A (1) Sub-clause (c) should therefore be preferred.

Clause (3) (1) Sub-Clause (d): This provides for the election of graduates to the council. The ingenuity of the Government of India has been brought into full play here. They want either an indirect election through the various provincial medical Councils transformed into provincial committees for purposes of this Act, which will give them an official majority or if it is to be direct election, the graduates so elected must have had five or more year's experience as a professor, Asst. Professor, Lecturer or Reader in the Medical Colleges or Schools affiliated to British Indian Universities as required under clause 5 (3) of the Bill. This latter proviso is intended mainly to exclude the Independent Medical Practitioners, who, whatever their merit, service or experience in the Profession cannot be expected to have this teaching experience and thereby secure an official majority even through this doorway. We must protest tooth and nail against this deliberate intentention of the Government to exclude Independent Medical Practitioners altogether. Clause (3) (1) (d) should stand unqualified, and unrestricted by clause 5 (3), which must be deleted. As for members of teaching experience in the council, the Universities will certainly provide enough of them and the three nominations by the Governor-General will go to supplement that number in the special branches of the healing art not already adequately represented in the council, The provincial Medical Councils consist mostly of officials, and an election from among them will give the council also an official majority. In order to provide for the Independent Medical Profession we would suggest that two members should be elected from among the graduates with or without teaching experience of whom one must be an Independent Medical Practitioner.

Clause (3) sub. Clause (e): The nomination by the Governor-General may tentatively be retained to represent special interests and after a time, even this must disappear, as in a democratic constitution, there can be no place for nomination.

The other provisions in the Bill need not be gone into at this stage, as the Bill in its present form is quite unacceptable to us.

There is no good our medical graduates of the Independent Medical Profession foregoing Rs. 75 or any less amount out of their hard-earned money as fees for registration, when they have no power to control medical education and when their brethern, the Licentiates have been so badly treated. After all only a few graduates who want to pursue post-graduate study in England and set up practice in that country will be benefitted by the creation of this council.

It will not be out of place here if we commend to the Government of India the Bill which our Editor Dr. U. Rama Rau had drafted in 1929, for introduction in the Council of State a second time but which he could not unfortunately do on account of his resignation of his membership in obedience to the Congress Mandate. According to that Bill, the Council will consist of :—

(*a*) The President, who shall be nominated by the Governor General in Council after the first election of members to the Council and thereafter, be elected by a majority of members of the Council under regulations made under this Act.

(*b*) one member elected by each University in British India established by an Act of the Indian Legislature or of or a local Legislature and having a Medical Faculty ;

(*c*) one member from each province in which a Provincial Medical Register is maintained, elected from amongst themselves by private practitioners whose names are borne on the Provincial Medical Register and who hold qualifications granted or recognized by any Indian University or by any other University or medical institution which the Governor General in Council may specify in this behalf.

(*d*) one member from each province in which a provincial Medical Register is maintained, elected from amongst themselves, by private practitioners whose names are borne on the provincial Medical Registers and who hold qualifications other than those mentioned in clause (c) above,

(*e*) one member from each province to be nominated by the Governor-General in Council.

The strength of the Council would be about 31 including the President in which non-officials will preponderate being 19 against 12 officials. This Bill had the approval of even our contemporary, the Indian Medical Gazette, Calcutta, an official organ of long standing and repute which does not always see eye to eye with us. We quote

here the following paragraph from the editorial of March 1930 issue of that journal :—

"On a study of Dr. U. Rama Rao's bill, our opinion is that it appears to meet the present conditions admirably. It meets the Indian demand for self-government in medical affairs by the creation of an all-India body of democratic constitution, to whom the General Medical Council of Great Britain may be expected to entrust the duties of supervision of medical education and inspection of examinations : whilst it does away with the necessity for an official Commissioner of medical education, appointed AD HOC without consulting general medical professional opinion in India. The one direction in which opposition to the bill is likely to develop appears to be the suggestion that the All-India Council may override the Provincial Medical Councils. We believe that this danger is more apparent than real. Normally, the right of inspection of medical study and examinations would be exercised, but we doubt whether the right of erasure of names from the medical register would be except with regard to the names of persons reported to have been erased from the Provincial medical registers. Undoubtedly the proposal for an All-India Council suggests a duplication of functions by a central All-India body and by the provincial councils, but in actual practice we doubt whether difficulties would arise. On the other hand, the medical profession in India would gain immensely by the creation of a democratic all-India council which would be an intermediary between itself and the General Medical Council of the United Kingdom, and would ensure uniformity in the different provinces in India, and reciprocity between the different provinces in India, and between them and other medical councils in the British Empire and other countries. In brief, the bill attempts a short of federal solution of the present problem which would leave the power of existing provincial councils untouched, but yet introduce a central and co-ordinating mechanism which would give India combined representation with regard to world problems of medical education and registration."

The Government bill, as it is, must be rejected, because it has not satisfied the Independent medical Profession in India and the whole army of Licentiates. It has not given us a democratic constitution, unfettered by officialdom. The All-India Council created under this Act would be a mock Council, a grand official appendage to the Government of India and not a true democratic body like those in other parts of the world.

Medical News and Notes

PROGRESS IN CANCER RESEARCH

Valuable discovery of Cologne Doctor.

(From our German Correspondent)

There is no field of medical research that so deeply interests public opinion as that which is concerned with cancer, and there is none in which progress has been so slow and disillusions have been so many. For this reason the press has of late become very cautious in dealing with stories of cancer cures, and any such claims are submitted to the most critical examination by experts before they are allowed to become public property.

This may explain why the discovery of a Cologne medical man, Doctor Simons, has so far not percolated through to the masses. But now that the Berlin Institute for Cancer Research and the Prussian Ministry of Public Health have endorsed the remedy he suggests, there is no reason why the facts should be withheld.

The scientist does not claim that he has discovered an omnibus cure for cancer: he does claim to have found a product the administration of which will very considerably reduce the number of cases of cancer.

In the course of an interview Dr. Simons, who is at present working in the Berlin Institute for Cancer Research under the control of its chief, Professor Blumenthal, indicated by what process he had arrived at this result. "It is well-known", said Dr. Simons, "that every living organism comprises cells that serve to reorganise the tissues. These cells may be described as being in a permanent embryonic state. Their function is to replace the constant loss of tissue through the decline and death of cells, and, according to the eminent cancer research worker Karella, they emanate certain exciting secretions that have received the name of 'trephones'.

"The older a man gets, the weaker becomes his vitality, his resistance power, the more these vivifying cells tend to diminish in number, and the smaller does the production of these trephones become. If through any agency, a local irritation be set up in any part of the body, either internally or externally this irritation results in these embryonic cells becoming more active. This activity increases to a degree where it ceases to be useful and becomes noxious. The cell

grows and grows, ceases to be embryonic and assumes proportions that make it a danger to the surrounding tissues which it absorbs and destroys by its own expansion. When that stage has been reached, cancer is present.

"This abnormal development of cells only occurs where, before the local irritation woke them into renewed energy, these cells had been dormant, and had not given out their regular supply of trephones. My treatment consists in preventing the occurrence of cancer by regularising the secretion of trephones by the cells, and where necessary, supplying them with the normal quantity of trephones where this is not attainable by natural secretion.

"To do this is really extraordinarily simple. Animal germs, embryos, at a certain stage of their development, are submitted to a certain process that has the merit of not being in the least complicated. The result can be administered to the patient in the form of pills or tablets, costs of fabrication of which are extremely low."

The discovery then, it will be seen, is of the nature of a preventive rather than of a cure, but this in some ways merely adds to its importance. The Prussian Ministry of Public Health is taking steps to have the Simons preparation dispensed to persons whose state of health is such as to render them likely or even but possible victims of cancer. This decision has of course not been taken till a number of hospitals, cliniques and academies had tested the treatment and found it effective.

It is interesting in this connection to note that Dr. Simons was not originally a medical man. He is the son of Cologne working man, who by dint of great privation provided his son with a good education and made a school teacher of him. The call of science however proved irresistable, and after some years the schoolteacher started to study medicine. After attaining his degree, he devoted himself increasingly to cancer research in which he was generously supported by the Ministry of Public Health, which during the past few years financed his experiments to the tune of some 15,000 marks.—*Transocean Service—Berlin. (By mail).*

Gleanings from Medical Press

SURGERY

The Treatment of Fractures—Aphorisms—Always use gentleness and care in handling any broken limb, roughness is inexcusable.

Use only the simplest methods of examination for the diagnosis of fracture.

Eliminate all unnecessary handling of the injured limb.

Definite localised tenderness over an injured bone usually is satifactory evidence of fracture.

Never attempt to elicit crepitus.

Disturb the patient and the injured part as little as possible.

Do not be deceived by the absence of deformity and disability: in many cases of fracture some ability to use the limb persists. Sufficient examination is one which includes a short history, a brief inspection and palpation limited to the localisation of the point of greatest tenderness, coupled with a light test for false motion.

Do not overlook the responsibility of making a diagnosis. Look for more than one fracture.

An exact diagnosis is absolutely essential to proper treatment and requires suitable X-ray films taken in two planes.

Make it a duty to see that the patient has an early suitable X-ray examination and competent treatment thereafter.

Keep the axis of the ankle and knee-joints absolutely transverse. When the sole of the foot rests flat on the ground, the top surface of the astragalus should be parallel with the ground.

A stiff shoulder following a fracture of the forearm usually may be prevented. The functional utility of the limb as a whole is a good measure of successful treatment.

Following fracture, the damage of the injury *per se* must always be reckoned with and deducted from the normal attainable by treatment.

Passive movements affect bone and joint surfaces, often injuring them both. Active movements affect muscles and mind, usually strengthening both. Guided muscular contractions are of primary importance in causing bony union provided, of course motion of the bone fragments is avoided. Doctors and the public have been taught for ages to keep broken limbs at absolute rest for many weeks.

Apply traction in such a way as to tire the muscles and not produce irritation; that is, make the pull slow, steady, and if necessary increase its force, until the contraction of the muscles attached to the fragments is overcome.

Bring the fragment which can be controlled into alignment with the fragment which cannot be controlled.

The circulation distal to the fixation apparatus should be observed frequently during the first three days until all possible danger of increased swelling under snug splinting has passed.

A small insignificant fracture may mean a large disability. Reduce the fracture with as little delay as possible. It is poor practice to wait for the swelling to go down. A primary reduction will give a better result than a secondary reduction.

Examine for nerve lesions and for associated injuries before attempting reduction.

Make an exact diagnosis of the fracture first and then, if necessary, select a splint. A splint may not be needed. Splints are often harmful. No splint is used to reduce a fracture; a splint is intended to maintain reduction. Splints are made to fit anybody. Make it a practice to splint, effectively. When wooden splints are employed use a large amount of padding on the splint.

Treat every case of injury as a fracture until it is proven otherwise. Limit manipulation without an anaesthetic to the correction of the most obvious deformities only, for a broken bone is exceedingly painful and any motion accentuates the pain. Secure the best alignment possible, for the better the alignment obtained in reduction, especially better will be the resulting function.

Mechanical arthritis may result from static faults after partial reductions, in fractures of the lower extremity.

Voluntary active movement of joints contiguous to the fracture as early as possible without disturbing the fracture is highly desirable. Early active movement will prevent the formation of peri-articular adhesions and adhesions within joints.

In the transportation of the patient, do not underrate the importance of temporary immobilisation to relieve pain and muscle spasm and to promote clotting of blood at the bone ends. Continued pain after 24 hours is usually indicative of an incomplete reduction of the fracture or of improperly applied splints.—(*B.M.J.*)

Ophthalmia Neonatorum (M. S. Mayou. B. M. A. M.)—The treatment was constant irrigation with cold lotion, since cold inhibits the growth of the gonococcus. Eusol 1-10 made a good lotion if not too recently prepared. After each irrigation the conjunctival sac was filled with acriflavine 1-1500 in castor oil. The nurse charted the amount of discharge found at each irrigation. Silver nitrate helped to clear the discharge towards the end of the attack. General treatment was as important as local. Debilitated children were more likely to get corneal ulceration. If possible the mother should be admitted to breast-feed the child. A valuable treatment was to nurse the children in open-air wards. Vaccines and milk injections were extremely dangerous, since they lowered resistance and might cause corneal ulceration. 90 per cent ulcers formed in the lower third of the cornea. Ulcers sometimes perforated early, particularly in fairly healthy children. Larger ulcers were associated with bad health. In the worst cases the cornea might slough and the lens extrude itself. The lens always came out in its capsule. These cases were often followed by secondary buphthalmos. The gonococcus never caused panophthalmitis. If an optical iridectomy had to be performed it should be done outwards or inwards, with slight inclination upwards. Gold

chloride was useful to diminish the halation from the nebula. In the presence of buphtalmos, Mules' operation was often advisable. General complications were rare, and included arthritis and endocarditis.—(*B.M.J.*)

MEDICINE AND THERAPEUTICS

Observations on Efficiency of Commonly used Hypnotics. G. P. Grabfield, Boston (*Journal A. M. A., May 30*, 1931), describes the observations he made in a comparision of the efficiency of commonly used hypnotic drugs. It occurred to him that a rough index of efficiency might be obtained by prescribing half the amount of the recommended doses and noting the number of doses that were required to produce a comfortable night's sleep. In this way the number of patients used, divided by the number of doses required, would give a rough index of efficiency If the accepted dose, under such circumstances, was the correct one the indexes should run about 50 per cent. In deciding on the dose either half the pharmacopeial dose or half the dosage recommended by the manufacturer, in the case of a proprietary drug, was used. While the indexes were much higher, this method proved satisfactory. Two series of experiments were done, in the first of which a senior house officer was asked to prescribe the drug by name, and in the second one of which he was given the drug in a numbered bottle to be dispensed in the ward according to a given dosage. The drugs selected are either in the U. S. Pharmacopeia or in the accepted list of New and Non-official Remedies. In only one case did the newer drug show any great advantage over the older ones of the same chemical group, and that was in the case of sabromin, which has certain chemical features that differentiate it from other bromide hypnotics, but the slightly increased efficiency does not compensate for the greatly increased cost. From his observations the author concludes that chloral hydrate in small doses and barbital are the most effective and cheapest non-alkaloidal hypnotics available today. He also emphasized the fact that satisfactory results are obtained with much smaller doses than are customarily used.—*The Illinois Med. Journal.*

Intramuscular use of Liver Extract. Maurice B. Strauss, F. H. Laskey Taylor and William B. Castle, Boston (*Journal A. M. A., Aug.* 1. 1931), present preliminary observations from which it appears that the intramuscular use of liver extract has all the theoretical advantages of the intravenous method and is decidedly practical both from a therapeutic and from an economic standpoint. Furthermore, some patients apparently prefer to inject a small quantity of liver extract intramuscularly rather than to ingest a large quantity of liver

or to take an extract by mouth which is not altogether palatable. From the preleminary observations it seems possible that the extract necessary for a week's treatment when taken by mouth may if given by daily intramuscular injections, suffice for from five to six months. The intramuscular method may be of even greater advantage in those cases requiring unusually large doses of extract by mouth or actually a life-saving measure in severely ill-patients. The adequate treatment of cord lesions requiring large amounts of liver extract may be greatly simplified by the parenteral injection of liver extract alone or as an accessory to oral therapy. The authors describe a method of preparing an extract of liver suitable for intramuscular injection and highly potent in pernicious anemia. Maximal reticulocyte responses were obtained from the daily intramuscular injection of the extract derived from 10 Gm. of liver. The potential therapeutic and economic advantages of this method are suggested.—*Journal of the Oklahoma State Med. Assn.*

Significant Hemorrhage Retinal Lesions in Bacterial Endocarditis (Roth's Spots). William Brown Doherty and Max Trubek, New York (*Journal A. M. A., Aug.* 1, 1931), call attention to the fact that the characteristic elliptic retinal hemorrhage with white centers occur in the bacterial endocarditis, acute and subacute, and in the severe anemias, notably pernicious anemia. The discovery of this lesion because of its significant appearance may aid in early diagnosis. The lesion occurs in both eyes, with a little greater frequency in the left eye. The lesion has little prognostic value in subacute bacterial endocarditis; in several instances it had appeared and disappeared in successive crops many months before death. The authors suggest that the designation "retinitis of endocarditis" might after further study be appropriately applied.—*Journal of the Oklahoma State Med. Assn.*

Unusual skin Reaction to Epinephrine. According to R. W. Lamson and S. O. Chambers, Los Angeles (Journal A. M. A., Aug 1, 1931), the subcutaneous administration of epinephrine may be attended with certain protracted or even permanent manifestations. In one patient observed by them so small a dose as 0.2 cc caused a definite anemia of the skin in an area of at least 3 cm. in diameter. This anemic area was observed more than six hours after the injection, and somewhat larger doses have prolonged such manifestations for a period of from twenty-four to thirty-six hours. In spite of such protracted action with accompanying anemia of the skin, no permanent change was observed. The skin immediately around the site of injection shows marked atrophy suggesting the appearance of the

foveated scar which follows a "primary" vaccine virus reaction. These unusual reactions may represent a local hypersensitivity or idiosyncrasy to the drug, but they have not been accompanied by any untoward systemic responses.—*Journal of Oklahoma State Med. Assn.*

Cod-liver Oil and the Vitamins in Relation to Bone Growth and Rickets.—Harris, H. A., *Am. J. M. Sc.*, 1931, 181 : 4 ; 453.

"The most reliable weapon in the treatment of rickets is cod-liver oil. The recognition of the merits thereof is not due to any specific contribution to clinical medicine in these days, but, as is the case with so much in life, is part of the wonderful clinical heritage of the past." In these words Harris, of the Institute of Anatomy, University College and the Medical Unit, University College Hospital, concludes a paper which won for him the Alvarenga Prize of the College of Physicians of Philadelphia, 1930. It is a lively, vigorous and highly entertaining paper which will be read with delight by any one who can abide cheerful criticism of cherished beliefs. He considers the history of cod liver oil in therapeutics "because it affords a singularly clear example of the manner in which the empirical common sense of the layman has triumphed over the alternating scepticism and hasty speculations of the scientist and, in particular of the biochemist in medicine". The oil was included in the British Pharmacopoeia in 1771, and in 1824 a paper by Schutte extolled its value in rickets, giving credit for recognition of its curative properties to Percival, who edited the 1771 Pharmacopoeia. Harris says of a clinical report on the uses of the oil, by Steinhæuser, of Heidelberg (1840)—"It surpasses in vividness any of those picturesque advertisements which the more cautious among us daily consign to the waste-paper basket." And his search through the literature shows that its value in relieving the anæmia of rickets was known to be enhanced by a supplementing chalybeate, and its usefulness in xerophthalmia was recognized long before the biochemists took the field. Our debt to old clinicians should not be forgotten in our enthusiasm for the vitamins, and we must not be carried off our feet by the claims of commercial houses, even though they may not be easily contradicted. With reference to the preparation of vitamin D by irradiation of ergosterol : "This highly important discovery has brought in its train an orgy of quackery," and "the craze for ultra-violet lamps, ultra-violet window glass and vitamin D as an addition to the various articles of diet is full of danger both to the community and to sound thinking." Some recent laboratory investigations are criticised, as in an instance when a basal diet containing 5 per cent of commercial yeast extract (the most readily

available source of growth producing vitamins) was used to demonstrate that vitamin D is growth-promoting as well as antirachitic. The Pharmacopoeia of the United States and the Pharmaceutical Society of Great Britain are accused of companying with commercial laboratories in sponsoring unsound methods of assay. Harris is critical, too, of the colour reactions of the vitamins, and presents reasons for his belief that the colour reaction is not a measure of vitamin A. Nor does the work on the chemistry of bone meet with his entire approval. "The apparent incongruities of the problem of calcium metabolism in the pregnant and lactating mother are readily interpreted with the aid of a knowledge of that morphology which is to-day so despised. There is a tendency to regard animal morphology as an exhausted subject, and biochemistry as a recently established science with a peculiarly potent armamentarium. It requiries but little thought to see that the process of growth and repair in the animal economy are still essentially physiologic, no less than that the factors in reproduction and heredity are also physiologic."

The problem of growing bone may be analysed in terms of three distinct processes: the growth of cartilage, the calcification of cartilage, and true bone-formation. Reasons are presented for including vitamin B among the factors concerned in the growth of cartilage, and "the process of senescence is speeded up by vitamin D, ultraviolet light or ergosterol. . . . Residence in the tropics with exposure to undue sunshine leads to premature senescence in the white man. The process of calcification invades the ligaments, tendons, the media of the blood vessels and the meninges. Overdose of experimental animals with vitamin D leads to premature senescence by the symptomatic deposition of calcium in the proliferative tissues." In bone formation, vitamin A plays an important part. If the supply be limited the degree of differentiation of the osteoblast is decreased and osteoid tissue is laid down instead of true bone : if the supply be still further diminished, the degree of differentiation is minimal and fibroblasts alone are formed.

In rickets all three processes described above are involved and are in part controlled by the vitamins mentioned. The healing of rickets calls for a balance in all three processes with a balanced supply of the three vitamins. "Hence the pretensions of the adherents of one or other vitamin are inherently false, and cod-liver oil alone gives a consistently cheap, adequate and balanced supply of both the calcifying vitamin D and the differentiating vitamin A."

In respect of vitamin D, we must be content with a reminder that it is present in generous quantities in cod-liver oil.

The chemical aspect of the vitamin problem, in terms of the salt content of the diet, must not be overlooked. Many make the claim that rickets may be controlled by a suitable balance of the calcium and phosphate intake. "A most fundamental contribution to our knowledge has been made by the recent Discovery Expedition (H. M. Stationery Office, 1929), in which it is pointed out that the distribution of diatoms, shrimps and whales is greatest where the phosphatic content of the sea water is at a maximum. Thus it would appear to be quite as rational to worship the phosphatic ooze of the ocean bed as to worship the ultraviolet rays of the sun."

This abstract does small justice to Harris's paper, but may give an idea of its raciness, its readability, and its "cocksureness."—*W. H. Hattie, Canadian Medl. Assn. Journal.*

Potassium thiocyanate in treatment of essential hypertension.—In a review of the literature, David Ayman Boston (*Journal A. M. A., May 30, 1931*), did not find clear evidence to show the clinical value of the thiocyanates in essential hypertension. From his own observations he concludes that potassium thiocyanate has a hypotensive effect which is almost always associated with distressing side reactions. The hypotensive and toxic effects, practically always occurring simultaneously, are produced by large doses given for short periods or small doses given for long periods. In view of the known effects of the much less toxic sedatives such as the bromides, further clinical trial and study of the thiocyanates should be limited to the purely functional, early stages of the disease. Clinically demonstrable arteriolar sclerosis is a contraindication to its use.—*Illinois Med. Journal.*

Sex Excess and Nervous Diseases.—Careful observation fails to disclose a single authentic record of a case in which excessive venery has resulted in organic nervous disease or a psychosis.

Venereal abuse is certainly a potent factor in the production of certain forms of neurasthenia but no more so than a large number of other causes.

There is not one authentic observation proving that masturbation is the direct cause of nervous or mental diseases.

Sexual excesses can be considered only as a predisposing cause for certain functional nervous diseases. The disturbed function of the internal secretion of the genital glands plays, perhaps, a certain part in the exhaustion.—DR. ALFRED GORDON, Philadelphia, in *Urol. and Cutan-Rev.*, Aug., 1929.

Correspondence.

CASTE SYSTEM IN MEDICAL PROFESSION.

I

Caste system, though at one time the most dignified glory of India, in virtue of its representing the Natural broad divisions of human activities, has become degenerated into divisions and sub-divisions rendered still worse by its Dogmatism and Orthodoxy. The natural divisions into which human activities, without regard to colour, birth or race, knowingly or otherwise, run, became the basis of the Divine doctrine of Caste System in India, of which the present day almost water-tight, birth-knit, tiny sub-divisions are the hither degenerated and abominable end.

Medical Profession, perhaps the noblest of all Professions, ministering to the wants of the 'suffering humanity', with a spirit fired with sympathy love and sacredness, without regard to creed or caste, race or land, sex or age, dealing directly with life, it is a pity, has become penetrated with the curse of the worst aspect of Caste System. No doubt there would be an obvious tendency on the part of the constituents of the Profession to resolve into various divisions with respect to the line of activities demanding their immediate attention. Thus the existence of Govt. servants—I.M.S. and sub-ordinates, Medical Practitioners Specialists, Licentiates, graduates and the like is quite natural. But there is no reason why these varied lines of Professional activities should lead to construction of 'Water-tight' compartments and Intra-professional segregation, thus inflicting a heavy blow to the all-important charm of Professional Brotherhood. The Caste system itself is not bad but surely its water-tight compartmentation is abominable: Medical lines of professional activities are not bad, but surely the water-tight compartmentation is not commendable.

II

Only a little more than superficial view is required to understand that this Compartmentation is more real than merely apparent. I.M.S. forms the impenetrable cream of the Medical Services, Indian Graduates and Licentiates subserving the subordinate ranks. No degree of efficiency skill or ability, entitles to more than officiating capacity as a Civil Surgeon and that also only for some stations. Distinctions into Degrees and Diplomas is not considered to be of

vital interest in Subordinate services where I.M.D's are concerned. Practitioners are perhaps creatures who are either meant to be ignored or are contented to be so. A Diploma holder, unlike in Great Britian has almost no chance, even with the best of ability to become a Degree holder in his life. He is meant to be a segregated unit.

If all this is not Caste system, what is it? Infact it is a Water-tight Caste system. The free communion in the various sections of the profession, has already fallen short of the ideal of Professional Brotherhood, consequent to this water-tight theory. Perhaps free association leads to lowering of dignity.

III

Already the conditions are worse and require immediate expert and efficient tackling The introduction of the new Bill: through the Legislature intending to form an All-India Medical Council, as a result of its inherent weakness, is liable to make confusion worse confounded. The mass of the profession holds Diplomas and that mass is intended to be excluded at the very outset : the intended body is to have an almost Official voice with (if at all and that also by chance) only a negligible scope for Independent section of the Profession to be represented. In other words this proposed constitution is to be a Body for Indian and Foreign Medical Graduates, headed and worked by Official element, caring nothing for the interest of the Diploma holder, little for even Independent Graduates caring more only for Dependents and most perhaps for the I. M. S. Graduates.

The object underlying the Bill is to standardise Indian Degree Education and to enable Indian Graduates to practise anywhere in British Empire and especially in England. For a handful of Indian Graduates intending to practise in England, a Bill is going to be placed on the Indian Statue which is liable to render the already Water-tight Compartments of Medical Profession into perhaps Air-tight Cells. This will satisfy the General Medical Council of Great Britain and Ireland, but the social evil that it is liable to introduce in the Indian Profession is beyond measure. I even though am a graduate, am not eager to get my name on such a Register which intends to hit at the Professional Brotherhood and yet maintains the name of an All-India Register.

IV

Even though I admit, that L.M.P.s with exceptions of a few glorified brilliant figures, are bestowed with a type of education which leaves them nowhere, I am not inclined to part with them. The fault is not theirs, but of the system that instructs them. Four years of Medical instruction is not a joke if seriously imparted. It

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

does become a joke when the scientific basis is weak and rickety. Medical Education with a sound preliminary Scientific basis can be efficiently carried out even within less than four years. It is not the stuffing up with facts and figures making the student's brain a medical human encyclopaedic pantechnicon that constitutes a System of Education, but opening up his brain, teaching him how to learn for himself without exhausting his organic resources and yet with a thirsty zeal and spirit of a humble enquirer, that goes to make a real medical man. Raising the period of study would perhaps be incompatible with the economic resources of India. I consider a strong preliminary Scientific basis followed by imparting broad principles of Medical Science tinged with a spirit of open-mindedness to new discoveries, would better serve the purpose.

V

General Medical Council, also, as enunciated in its declaration last year, appears to be right, in the principles which led it to disaffiliate Indian Medical Degrees. The Council is naturally meant to safeguard the interests of the British Health and the British Practitioners. This really shows the sincerity of its purpose and it is how the Council justifies its existence. In fact we have to learn much from the Council, from the history of its formation and its further wonderful development. One learns with great pleasure about the tremendous sincerity and effort that is displayed by this Body in the upliftment of the profession over there. This body, in fact, should be an object lesson for us. And it teaches us that when it took birth, it registered all the then-practitioners of whatever qualifications, as its members and further it has been ever alert and rightly so to safeguard its members from foreign and Internal break-down. The last-year's disaffiliation is a recent documental declaration of its sincerity.

VI

The present situation is simply puzzling. But how to be out of it? Let us take a few lessons from the British G.M.C. and let me propose the following:—

1. Let every Medical person in India, whether holding a degree or a Diploma press on the Govt. through various representative Bodies, the necessity of bringing into being, an All-India Medical Council, on the lines of the G,M.C., for the all-important purpose of henceforth Standardising Medical Education, in India both for Graduates and Licentiates especially for the Indian and Tropical needs and generally for the Medical needs of the world.

2. Let every duly qualified Medical person at present in India, seeking admission thereto, be allowed to have his or her name on the All-India Register.

That in case the Standards of the proposed I.M.C. failing to satisfy the needs of the G.M.C., the G.M.C., be allowed to set up a special test for Indian Graduates preliminary to granting enrolment over there.

4. That the proposed I.M.C. be also empowered in the interest of the Indian Health which it is meant to safeguard, to set up a special test in diseases peculiar to India, for the Graduates coming from abroad, (including England, America, Germany etc.) before they are allowed to handle Indian Health and Disease or are eligible to Practise or Serve.

5. That the Constitution of the said Council of India, should be such where adequate representation should be provided for not only Graduates but Licentiates as well, from the Independent Practising Ranks

PAUNGDE.
Dated the 26th Oct. '31.

R. L. SONI, M.B., B.S.,
Municipal Commissioner.

INTERNATIONAL HOSPITAL ASSOCIATION.

At the close of the Second International Hospital Congress which met in Vienna from June 8th to 14th, the representatives of the fortyone countries participating in the Congress voted unanimously to organize an INTERNATIONAL HOSPITAL ASSOCIATION.

The purpose of the Association is to bring about an international exchange of opinion and international co-operation in all problems and in all fields of hospital work and in all relationships, economic, sociological and hygienic. The Association is composed of two classes of members: ordinary members consisting of national hospital associations and associate members.

These comprise two groups of persons interested directly or indirectly in hospitals, one consists of individuals associated, in one way or other in hospitals or cognate institutions, the other will be representatives of firms or organizations standing in a business relationship to the hospitals such as architects, builders, manufactures of hospital supplies, merchants and the like.

The associate membership in the International Hospital Association entitles the members not only to free subscription of the "Nosokomeion," the official organ of the Association, to full participation in the International Hospital Congresses but above all to

participation in the work of the 10 permanent committees. These committees under the leadership of recognized specialists in various fields will devote their time in working out standards for the guidance of the hospital field throughout the world.

The annual subscription for associate members of the first description is $ 5, and for the second $ 10.

The undersigned beg to appeal to all those interested in the proper care of the sick to become associate members. Applications may be sent directly to the officers of the Association or to any member of the Executive Committee.

DR RENE SAND,
President,
2. Avenue Velsquz,
Paris 8e.

DR. E. H. L. CORWIN,
Secretary General,
2-E. 103rd St. New york.

HONORARY APPOINTMENTS IN TEACHING INSTITUTIONS.

Now it is more than a month since the report of the Government Honorary Committee is published in the Press. All the medical men must have made a thorough study of the said report, realising the full implications of the recommendations. Several medical bodies including the South Indian Medical Union called for their respective meetings and passed various resolutions bearing on the recommendations of the Government Honorary Committee. The South Indian Medical Union has passed by a majority a resolution for the inclusion of the licentiates in the teaching institutions.

Now, I desire to point out a glaring mistake in the recommendations, which if given effect to, as is bound to be if no protest is made, practically debars the Licentiates from contributing their services to the public in the city of Madras. The mistake I refer to is evinced from the following passage.

"Clinical assistants in all teaching institutions must hold the degree of M. B. B. S. or its equivalent." As all save the Royapettah Hospital are teaching institutions we, the Licentiates are left no scope to work in any of them on ths basis of the above mentioned recommendation.

One of the arguments levelled against us is that if we are admitted to such institutions, we can be made to teach the graduate students. This is, it appears to me a weak and frivolous contention. The apparent difficulty can be surmounted in this way. There are the Honorary Physicians and Surgeons and Assistant Honorary Surgeons and Assistant Honorary Physicians who are in charge of the beds who can take up the teaching work.

As regards the clinical Assistants 50 % of the Honorary appointments can be, without detriment to any one, reserved for the Licentiates who are treating the bulk of the paients in the City of Madras. If this is not acceded to, I fear, it may in all possibility pave the way for a rift between the Licentiates and the Graduates.

A further difficulty also arises from this recommendation. If the cloud that arises from the above said recommendation is not removed, preferably in the way which I have suggested above, then the free post-graduate course in the special subjects that is offered is I am sure merely an offer in the moon-shine, due to the fact that city Licentiates are debarred from working in any of the city Hospitals except Royapettah Hospital, which is a condition precedent for undergoing the post-graduate course.

29—12—31

DR. K. VENKAT RAO, M. B. B. S.
Purasawalkam, Vepery, Madras.

Book Reviews

Essentials of Medicine:—By Charles P. Emerson, M. D. and Nellie Gates Brown, R. N. Eighth edition, Entirely revised and reset. Published by J. B. Lippincott Company, London, Price 12/6 net.

We have not had the opportunity to read or review the earlier editions of this book and our review is based on the contents of the present edition alone.

We agree with the author when he says in his preface to the first edition that students lack perspective in their medical studies and do not learn A.B.C. of the disease first before proceeding to its more difficult study. If it is true with American students it is truer still with Indian students whose education in the Universities and medical schools of our country is far from satisfactory and sub servient to the needs of medical administration in producing a docile, if not an unintelligent, set of medical subordinates. Obsessed by the importance of symptomatology and swayed by a ponderous sense of morbid anatomy, the students in medicine, at least in the Indian Universities which is within our knowledge, lose sight of applied physiology and anatomy which for a clear understanding of a disease are as essential as the former. This book supplies this need in the proper time of

student's career and forms a ground work for an intelligent appreciation of the origin and course of a disease.

Another useful feature of the book is the abundance of illustrations mostly drawn by the author and we would particularly point out to the one "The History of a boil" as very clear and instructive, the like of which we have not come across during our review of medical books for the last one decade.

What otherwise would be an excellent text-book is however marred by a number of inaccuracies and mis-statements of facts. It is indeed a hard task to compress within a brief compass the vast facts of modern medicine and we do not therefore complain against the author for sins of omission and commission. But we do require for all students' text-books reliable information based on sound experience and possibly verifiable by scientific experiments. Within the range of contents which the author presents in this book we regret to find not an inconsiderable number of wrong statements and mis-statements. For the purpose of this review we shall point out some of them, not certainly with the spirit of a cynical critic, but with the hope of being useful to the author, as far as it lies within our power in amending the future editions of this book.

Page 6. "If morphia is necessary for severe referred pain there will be greater relief if the injection is at the seat of referred pain and not always in the upper arm, for where the pain is felt there it is." For psychological reasons we can understand such a method but not as an expression of scientific fact: for, morphia must produce its effect in whichever portion of the body it is injected.

Page 10. "Patients with Hook-worm disease have an apathetic and listless expression, *dilated pupils*, etc..." Our experience of tropical ankylostomiasis does not bear out this statement and dilated pupils is not in any way characteristic of the appearance of such patients.

Page 11. The patient with malaria usually appears comfortable but weak rather drowsy, anaemic and slightly jaundiced." Reading this under the chapter "Attitude and appearances of patients" the students will be led to believe that malaria is one such disease which we can guess by appearances easily. Personally we do not believe that malaria presents an easily understandable appearance and to include this in this chapter which deals with provisional diagnosis by appearances alone will lead the students to a diagnostic miasma. In an endemic malarial region we have come across children with protuberant abdomen and sallow complexion but outside that area the same appearance need not be caused by malaria, for, in the tropics the causes of splenomegaly and anaemia are many, known and unknown.

Page 14. "The axillary temperature is easily and more hygienically obtained but to take it requires a much longer time, *at least 15 minutes.*" We confess this is the first time we read such a cautious statement though we recognise the fact that oral and rectal temperature are quicker to record than arm-pit. 15 minutes will be inordinately long and 5 minutes will, we think, be well outside the period of error.

Page 16. "Fever is usually a reaction against infection but it may be the effect of.....or of some disturbance of the thermoregulator centre as in *cerebral haemorrhage, brain tumours* and other cerebral lesions." If by word fever is not meant subnormal temperature, cerebral haemorrhage and brain tumours are conditions, unless there is a prior or subsequent infection generally of the pyogenic type, where subnormal temperature is an outstanding feature. Either this is a gross error of statement by the author -which we do not think it is or an error in the construction of this sentence which jumbles up different causes that give rise to derangements of temperature.

Page 95. Classifying aneurisms and after describing and defining saccular and fusiform types the author writes "The great majority of aneurisms rupture causing sudden death though through a small rupture the blood may work its way along between other organs, scar tissue meanwhile forming a wall to limit the escaping blood. *This is known as dissecting aneurism.*" It is obviously a definition of a false aneurism and certainly not that of dissecting aneurism which is caused by the splitting of the coats of the artery, the blood having passed through the lumen into the wall of the artery separating one coat from another.

Page 273. "In acute nephritis and in acute flare ups of chronic nephritis the amount of urine and of its normal constituents is diminished and it contains more or less albumin casts, *pus* and blood." We strongly believe that pus, if at all, is a rare constituent of the nephritic urine unless there is already pyelitis or pyo-nephritis. It is inaccurate so far our experience goes; neither is it borne out by authors of famous text-books such as Ostler, Taylor or Price.

Page 279. "In nephritis the *specific gravity is usually lower* than one would expect, for in these diseases the kidney cannot easily excrete the solids which normally would be eliminated". In fairness to the author let us quote him from page 288. "The urine out-put will be scanty.....with a specific gravity often between 1020 and 1025 (*i e., low*) *considering the total amount).*" We are quite sure the student when reading this will carry in his mind the idea of low specific gravity in acute nephritis and will not ponder to think that it is low proportionately to the quantity of urine voided. Nor do we think that this is the right method of expression or explanation.

He could have as well written that the specific gravity is high and assigned reasons for its being so. That would be free from ambiguity.

Page 527. "The cure for malaria is quinine or *Arsephanamine (606).* "While beginning the paragraph with this idea he writes about quinine therapy alone and no mention is made about the results obtained by 606 in malaria. We, on this side of the tropics, do not at all think of 606 in the curative treatment of malaria and if arsenic in any form is used it is as an adjuvant either in the form of liquor arsenicalis or Easton's syrup or stovarsol to combat the malarial anaemia. The omission of Plasmochin and quino-plasmoquin when the claims for these drugs are well established is regrettable.

Page 530. In the treatment of syphilis it is well known to the medical profession that the use of 606 was given up a decade ago on account of its severe reaction and fatal results in a number of cases. It is 914 or neo-salvarsan or its equivalents, neo-kharsivan and Novo-arsenobenzal, that are largely used in the therapy of syphilis. It is a pity that the author is not definite or conclusive on this subject.. He does not even mention the now common use of bismuth injections in place of mercury which we think is not so widely used as before.

The narrative style of the author is pleasing and expressive enough but in some places the sentences are heavy and too complex.

Pages from 29 to 42 and 43 to 44 are omitted: pages from 47 to 59 and page 45 are repeated. We are surprised to see this error in a book published by a firm of the reputation as Lippincott's. We only hope that this mistake is confined only to a few copies and unfortunately ours is one among them.

If we have adversely reviewed the book it is because we realise the need of elementary text-books on medicine on this model but the matter and manner of its presentation must be correct and understandable if such treatises are to be of any use to the students. We are constrained to remark, in all conscience, that in more than one place the matter is incorrect and incomplete and the manner of presentation though generally satisfactory is sometimes cumbrous, ambiguous and unintelligible.—*A. V.*

Methods and Problems of Medical Education—18th Series—produced by the Rockefeller Foundation, like the rest of the series, is a valuable and instructive publication. It is particularly so to the members of the medical profession who desire

to be enlightened as to how education in medicine is carried out in the different parts of the world. To those engaged in Medical and Public Health Administration, it is especially instructive.

It gives splendid accounts, illustrated by good photographs, plans and diagrams of thirty different clinics, laboratories and methods of teaching medicine, as obtained in the different countries of the world. It is invaluable to those concerned with medical education and administration in this country ; for, it places within their easy reach, a mass of accurate information on the working of modern up-to-date institutions of the world for comparative study. It offers them a facility for the correct determination of their local requirements without the necessity of putting them to the trouble and expense of having to travel widely to visit such institutions.

Moreover, it gives the reader accounts of the bold experiments in the teaching of Medicine such as the one described in 'the clinics in Preventive Medicine in the third year Teaching at Harvard Medical School." Thus they stimulate similar attempts of experimenting in the other progressive institutions of the world, thereby promoting the wider appreciation of the place and value of preventive medicine, in the curriculum of medical instruction, not yet so much recognized as it should be, and advancing the pace of progress in Medicine in general and medical teaching in particular.

" The case summary form for Medical Ward Clerks," a copy of which is given in it, is another useful model of a Record form which is at once brief and comprehensive.

One feature of unique value of the articles in the series is that they give, wherever possible, a short statement of expenditure, both capital and recurring, of the institutions described. Those concerned with the planning, designing and working of such institutions will find it of great value, in this country, as in other countries.

In one word, these publications form an extensive mine of very instructive information for reference on the methods of medical education, not available in any other such short compass. In these days, no administrator of the medical and public health departments can afford to be without them for reference.

In Siam, an oriental country like India, the progress made in medical education by the munificence of the members of the Royal House, is very gratifying. It ought to stimulate a sort of healthy rivalry in this country of Zamindars, Chiefs, Rajahs, Maharajahs and Nawabs. The Faculty of Medicine of the Chulalankarana University of Bangkok, Siam, bids fair to vie, in its equipment and efficiency, with any up-to-date institution in India. Such institutions promise to become the centres of medical learning in the country for the future, where the many knotty problems of Tropical medicine will await solution.

In bringing out these publications, the Rockefeller Foundation render the world inestimable public service.—*T. S. T.*

Ante-natal Care.—By Dr. W.F.T. Haulton and Dr. E. Chalmers Falmy. Published by R. S. Livingstone 16. 17. Turist Place, London. Price 5 sh.—The book before us for review is the second edition published this year 1931 and we note that the first edition was published in 1929. Thanks to the pioneer in the movement of Ante-natal care, Dr. Ballantyne, the present day medical world is progressing every day in the knowledge of the science of Ante-natal care feeling its great need and importance in the cause of National Health and efficiency. Workers in the cause of Welfare problems, have been of late devoting more time and talents to the study of Ante-natal problems. A great deal of research on the subject is being conducted in America and the publications of various Universities and Associations on this problem, have time and again confirmed the great need of tackling the problem scientifically. A Committee appointed in England on "Maternal mortality and morbidity" recently have published a report advocating the great need of a National maternity service and pointing out that while the general death rate and infant mortality rate have both substantially declined in the last 20 years maternal mortality from child birth is still too high. If this is the case in England, the condition in India may be well imagined.

Proper Ante-natal care is one of the principal means of reducing the incidence of abortions, still births, and eclampsia in pregnancy and the maternal deaths from child birth. Educated and watchful care from the time of conception is very important. It has been truly stated that "the proper time to begin the treatment of diseases is one hundred years before birth". And yet, the indifference to the rules of health and ignorance of Ante-natal precautions during pregnancy drive many a young woman to premature grave or eternal misery every day in our country. These deaths are preventible and yet we do not prevent. Nature gives several danger signals during pregnancy and those who take timely advantage of them by seeking expert advice and treatment invariably escape the serious and fatal consequences. Labour, especially the first labour, has its obvious dangers and most of these may be foreseen and if forseen may be averted altogether or met by a skilled Obstetrician who is armed and prepared by this foreknowledge. This writer has come across cases of abortions, stillbirths and eclampsia among the wives of even medical men and it must be admitted that there is ignorance or indifference on this important problem even among the medical practitioners of our country.

105

The book has been divided into 14 chapters dealing with 1. The Ante-natal Clinic, 2. The Diagnosis of pregnancy, 3. The Hygiene of pregnancy, 4. Early pregnancy, 5. The measurements of pelvis- 6. Examination of the patient, 7. Treatment of contracted pelvis, 8. Albuminuria, Eclampsia, and Chronic Nephritis, 9. Haemorrhages of pregnancy, 10. Other complications of pregnancy, 11. Pain in Pregnancy, 12. Venereal diseases, 13. Post-natal care, 14. Maternity and National Health Insurance benefits.

The authors who have had practical experience in the Royal Maternity and Simpson Memorial Hospital, Edinburgh, in Ante-natal work have dealt with the subject in a very interesting and practical manner in this volume and we hope that it will find a place in the library of every medical practitioner in India and elsewhere. A word of praise is due to the Publishers E. and S. Livingstone, 16 & 17 Teviot place, Edinburgh. for the neat get up of the book.—*Dr. (Mrs.) Anna Thomas.*

The Origin of the Human Skeleton, by Robert Broom. D. Sc. F.R.S. (London) 1930. pp. 164, 2 plates and 46 figures. Published by H. F. & G. Witherby 326, High Holborn London. W. C. Price 10sh. 6d. net.

This interesting book is a summary of the results having a bearing on the important and interesting question of the origin of the mammals from an anatomical point of view. The title of the book does not perhaps give an idea of the contents as the main theme is the origin of the mammals rather than the human skeleton.

A student of Zoology or Anatomy who is interested in osteology will be able to follow this book and enjoy the scientific method of presenting and comparing details in order to arrive at a synthetic view.

Dr. Broom who is one of the authorities amongst the living paleaontologists has a lucid style and has taken pains to avoid undue technicalities. His treatment of the transformation of the reptilian into the mammalian palate is valuable ; but it cannot be expected that experts will be unanimous in his findings, for instance he rejects the idea of an original cartilagenous element equivalent to the pre coracoid being included in the human clavicle.

The book is nicely got up with explanatory figures and we strongly recommend it to students of Anatomy, Zoology and Palaeontology.—*H.H.K.*

Report on the Public Health Administration of the Punjab during 1929.—An annual administration Report is probably an uninteresting publication to review, but not so one which comes from brilliant author of *The Genesis of Epidemics.* Lieutenant-Colonel G. A. Gill's Report on the Public Health Administration of the Punjab during the year 1929 is a tribute to the long list of sanitary works of public utility constructed by private benefactors (Appendix IV), to the devoted labours of Miss Simon and Miss Raynor in the cause of maternity and child welfare in the Punjab, to the leaven of the Gurgaon experiment of Mr. F. L. Brayne I.C.S. in rural sanitation and to his own energetic staff who go about their work in the Province with keenness and confidence. It has its interest to the economist who is told about the precarious nature of the Punjab's prosperity in the middle of sickness and death. It has its interest to the sociologist who gathers that in the Punjab besides a high death rate (28.75 per mille) coexisting in natural association with a high birth rate (44.45), the excess of the latter figure over the former (amounting to 15.70 per mille rise in the natural population) is unparalled in India and only rarely approached in any part of the world. And so on it appeals to all tastes including, as in the conclusion, that of the literary dilettante also. To the Statistician it has undoubted significance and I may permit myself to note them briefly in this Review. As a triumph for statistical methodology in the study of epidemics the extreme accuracy of the forecast of malaria epidemic in August and the actual figures of death rates from fevers in the districts ascertained at the end of the year has naturally earned for Col. Gill and his co-workers the high appreciation of the Punjab Government. The establishment of a pucca department of Epidemiology is bound to give further impetus to such work. But above all the Report is valuable for its telling Charts. Two of these I would like to examine critically.

Chart I describes the course of infant mortality rates in the Punjab between 1880 and 1929. It consists of a series of U-shaped figures of 8 years' amplitude each the opening phase in 1880 being the rising arm of a previous U-curve, but the subsequent cycles are formed by the periods 1884-1892 ; 1892-1900 ; 1900-1908, 1908-1918 ; 1918-1924. The seeming wider interval (10 years) in the IV wave (1908-1918) was soon made up by the shorter span (6 years) of the V wave (1918-1924). The first three waves exhibit uniform rising sweeps (i.e., increase in secular trend), and from 1908 there is perceivable a sure and significant diminution in the elevation of these curves (i.e. the secular trend is negative.) The year 1908 thus marks a sure turning point in the course of the curve of infant mortality in the Punjab. The present cycle i.e. wave VI, 1924—(? 1932) raises to me, however two issues : (i) if the

mortality record of 1925 is accidentally too low (188 from a rough reading from the Graph; I have no record of the actual numbers) but ought in reality to be higher, say 208, then the figure joining 1922, 1923, 1924, the new level of 1925, 1926 1927 is of an inverted parabola (with its vertex upwards), and will be altogether reversing the history of past 40 years, and would naturally lead one to inquire what has contributed to this fundamental change in the convexity of the curve of infant mortality. It probably is not so, and therefore the second possiblity viz., (ii) that the 1926 mortality record is accidentally too high, and should have been 175 or thereabout instead of 210. In such a case the present cycle (VI) is quite in conformity with all the anterior history of the progress of infant mortality in the Punjab, and includes with it the ugly consequence of a slightly higher rate in 1930 and one or two subsequent years. But the peak in this cycle need not be so high as in the previous peaks (1892, 1900, 1908, 1918 or even 1924), if the continuation of the negative secular trend previously referred to is borne out.

Chart II includes a diagram showing the total number of cases and deaths from cholera in the Punjab by weeks during 1929. It extends over 30 weeks (April 6th to November 2nd), and is bimodal. In fact it consists of two separate polygons, the first extending over the eariler 17 weeks, and the second in the remaining 13 weeks. The maximum frequency occurs in the 11th week (June 15th) in the first polygon, and in the 22nd week (August 31st) in the second polygon. The first section has thus a longer ascending limb (11 weeks) and a shorter descending arm (6 weeks) and the second section has a longer descending limb (8 weeks) and a shorter ascending arm (5 weeks). Now the researches of Brownlee, of Peters and of Gill himself have established various laws connecting the shape of the epidemic curve with the cause and the nature of the epidemic itself and the second part of this curve surely reveals its origin and character of a water borne holomiantic. It is not possible to force more meaning out of these two differently shapes polyhedra, but we may be content with drawing attention to this remarkable occurrence side by side, consecutively and without break, two such distributions. —*K.B.Madhava.*

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(1) Psychiatric indications for sterilization. By Dr. Ernst Rudin. **(2) Better unborn** (Committee for legalising Eugenic Sterilisation) Published by the Eugenics Society, 20 Grosvenor gardens, London S. W. 1. Price 6d. each.

The Eugenics Society issues a number of small booklets and one recent publication is the abridged translation of Dr. Ernst Rudin's

"Psychiatric indications for Sterilization." The author is one of the most eminent German workers in the field, and his essay is a very informative, and well reasoned case for the permanent prevention of procreation of certain individuals in order that the race may be protected and conserved. Not only positive carriers of disease, but psychotics, psychopaths and the feeble minded need (be it noted that the author does not insist on compulsion) to be sterilised in order to eliminate the cause of hereditary misery. On biological grounds the mode of transmission of certain diseases justifies such a step. Thus Huntington's chorea is one disease wherein transmission is of a simple dominant type and affects 50 per cent. of offspring. Myclone epilepsy is a simple recessive and affects a quarter of the population. In schizophrenia in one parent only 43-52% of children have been ascertained to have been affected, but with both parents, 82%. Manic-depressive insanity is more strongly inherited. It is little realised how prevalent the last two diseases are in Munich and a considerable part of Bavaria, the one is spread over 8.5 per mille, and the second over 4·1 per mille, of the population. On general grounds too such as the possibility of abuse, the effect on public morality, individual's objections, anti-social taint, or even the oft encountered objection that genius or talent is frequently associated with insanity (which the author holds is a purely fortuitous correlation), very strong arguments are adduced in justification of sterilzation. And it is to be hoped that even those conscientious objectors to the diverse direct artificial interferences with the processes of fertilisaton and gestation would not withhold their approval to such a measure of race protection, although some (like the author himself) may be inclined to call for authoritative pronouncement in regard to the laws of transmission of particular diseases.

The other publication-"Better Unborn"- Contains the text of a Bill by Major A. G. Church (Member for Central Wandsworth) for introduction in the Hosue of Commons under what is known as "ten minutes rule". It provides for sterlisation operation (which according to Rudin would in good hands take only 15-20 minutes and is without risk) of mental defectives on the application of themselves, or of their spouses, or of parents or guardinas. Dr. Rudin is of the opinion further that castration—the removal of the sex glands—is unnecessary, that X-ray sterilisation is too uncertain (and when it fails, too risky for posterity), and that therefore the operation should consist for men in severing and ligating vasa deferentia, and for women the opening of abdominal cavity and severing of the Fallopian tubes. It is these operations and "any medical treatment which attains the same result" that the proposed Bill seeks to validate (but not compel.) And the pamphlet is accompanied not only by the opinions of (favouring) critics, but with a list of authentic

cases of hereditary defect presented in a very striking and compelling manner. Certain statistics of the financial effects of segregation are also entered into and the publication is defintely aimed at popularisation or propoganda. Dr. Dunlop would go further for he has a letter to the Editor of the Eugenic Review (current number July 1931 p. 191) where he says " It is of far greater eugenic importance to get all the people of the financially poorest classes to have very small families than to reduce the present regrettable fertility of those who suffer from mental deficiency or other hereditary affliction." —*K.B.M.*

Psychology.—By John H. Ewen M. R. C. S. (Eng), L. R. C. P. (London), D. P. M. Published by E & S Livingstone 16 & 17 Teviot Place, Edinburgh. Pages 72. Price 1 s. 6 d.

This is a Catechism Series and the text is discussed in the form of questions and answers. The questions are beautifully arranged, and the answers are clearly and concisely discussed. To know the elements of Psychology it is, we think, the best book for all. —*K. L. R.*

Bacteriological Control of Milk. By A. G. House of the National Institute for Research in Dairying, University of Reading. Printed at the University Press, Cambridge. Pages 59. Illustrations 29.

The author's long experience in this line makes him well qualified to write an authoritative monograph on this important subject of milk testing. It is purely a practical guide containing detailed instructions for equipping a laboratory and for the sterilization of the utensils necessary for the work, for preparing different media, and standardising it. It contains also the detailed methods of bacteriological texts of a sample of milk. The text is profusely illustrated and the appendix contains the methods of preparation of solutions necessary for the experiments and also the list of apparatus and chemicals required. Surely a useful guide to those who are engaged in the work of milk testing.—*K. L. R.*

Alimentary Anaphylaxis.—By Guy Laroche, Charles Richet Fils and Francois Saint-Girons Paris, France: Translated by Mildred P. Rowe and Albert H. Rowe, Preface by Albert H. Rowe Published by the University of California Press, Berkeley, California. Pages 139. Price $ 2.00.

A book of this kind is quite welcome in these times of quick progress of different branches of medicine and an ordinary medical man cannot be expected to keep in touch with all the latest developments by reading the immense literature published day after day all over the world. But a book like this, which deals with the recent advances in a certain branch of medicine, is within reach of all those who want to be fully informed and up-to-date. An average physician is ignorant of the various symptoms that gastro-intestinal food allergy may give rise to and a successful treatment depends upon proper diagnosis. The American doctors deserve our hearty congratulations on their excellent translation of the French publication. This is the first book to be published containing summary of gastro-intestinal allergy and covers a complete discussion on the

etiology, symptoms, experimental studies, pathogenisis, diagnosis and treatment of alimentary anaphylaxis. In the end the book contains a long bibliography in the original language form. We highly commend this small monograph to the medical world for its excellent and useful informations.—*K. L. R.*

The Basis of Epilepsy.—By Edward A. Tracy M. D. Published by Richard G. Badger, The Graham Press, Boston. Pages 92 Illustrations 17.

In this small monogragh the author establishes the relationship between epilepsy and sympathetic system. He says that the essential cause of epilepsy is a hypertonic of sympathetic fibres. He supports his arguments by observations made in a series of cases of epilepsy, and pathological findings of degeneration of the sympathetic nerves in autopses also establish the fact. By describing the various abnormalities of the vaso constriction reflexes observed in a large number of cases, the author comes to the conclusion that there is a diseased condition of the sympathetic neurons in these cases. The first Section deals with the investigation of chronic epilepsy, major mal cases. In the second section the incipient epilepsy is treated. The effect of oenanthe in quelling the hypertonia of sympathetic fibres and also the symptoms of the incipient disease is further proof of relationship between the two. The treatment of, incipient epilepsy is also described briefly. In the last section the experimental details, the methods of testing and recording vaso motor reflexes and diagnosing epilepsy between seizures are described. The book is very interesting and original in its ideas.—*K. L. R.*

Elements of Physical Therapy:—By William W. Worster, A. B., A. M., B. D. Published by the The Worster Laboratories, 205 South Mission Drive, San Gabriel, California. Second Edition, Pages 232 Illustrations 97.

The production of the second edition of this small booklet within the short time of a year is definite proof of its popularity and usefulness. This second edition is completely revised and enlarged. In the first few chapters the author discusses the various light rays, namely Infrared, Visible, and Ultraviolet, which are generally used in physical therapy; Their mode of production, the biological actions and the therapeutic uses, and also the different kinds of apparatus used for different ailments were throughly discribed. IV Chapter deals with Galvanic current and ionic medication. In the next comes the description of the sina soidal current and the author rightly puts it as " the greatest known single factor for the tonic stimulation of both nerve and muscle. It produces the most stimulation with the least pain or irritation." Under high Frequency current come Diathermy, Autocondensation. Indirect Diathermy or violet ray, and Surgical Diathermy, and each one of these are described at great length in different chapters. The Static current which has been fallen into disrepute now-a-days is not missed in this book. Lastly, the book contains elaborate descriptions in the application of these currents in different conditions and diseases, namely muscle and nerve degeneration. Disorders of the

digestive tract, blood pressure and pulmonary diseases, urithritis, *neuritis, etc. There is no doubt that Physical Therapy has come to* stay as an indispensable aid both in medical and surgical treatments. The specialist or the general practitioner cannot get on in these days without its aid, and to keep himself in touch with it. This is the best book. We highly commend it both for the medical student for study and the doctor for reference.—*K.L.R.*

Report on Fifth International Congress of Military Medicine and Pharmacy held in London on May, 1929.—Compiled by Commander, William Seaman Bainbridge, M.C.F. of United States, Naval Reserve. Member of Permanent Committee and Delegate from the United States. Published by George Banta Publishing *Company Menasha*, Wisconsin.

This gives an account of all that took place at the congress attended by representatives of forty nations. The book opens with a list of office-bearers and delegates to the congress and contains reports and communications of delegates on the subjects discussed at the congress. The important subjects discussed were :— (1) Evacuation of sick and wounded by air and water. The roll of the Medical Services in combined operations. (2) Tropical fevers of short duration. (3) Injuries to blood vessels and their sequelae. (4) The Physical and chemical analysis of the glass and rubber articles employed by the Medical Services. (5) The standard of Dental and Physical fitness in the various military services. The conclusions on these subjects arrived at by the congress are given at the end. Supplementary notes and other activities of the congress are also found. The author deserves our gratitude for the labour and skill he took in preparing this comprehensive report.—*K. L. R.*

Nutriology.—By J. Arthur Buchanan, M. D. Published by Richard G. Badger. The Gorham Press, Boston. Pages 149. Price $ 2.00.

In this booklet the author deals with the study of the value of foods. He begins with the description of the types and natures of food, their chemical composition, how they are digested and absorbed and their functions in the body metabolism. Long series of tables are given containing the percentage of protein, carbohydrates and fats, and also the different salts and vitamins in each food stuff that we use daily—vegetables and non-vegetables. Then follows the discussion of the dietic treatment of some of the diseases, where dietary forms an important item of treatment. Treatments of Diabetes Mellitus and Ulcers of the Stomach and Duodenum are discussed at great length. Also mention is made of food in relation to common diseases as diseases of the Genito-Urinary Tract and Gastro-intestinal Tract, Infectious Diseases, Diseases of the Heart, Arteries and Blood, Diseases of the joints, skin and endocrine glands, and Food Deficiency Diseases. The book is sure to be of immense use both to the students and the profession.—*K. L. R.*

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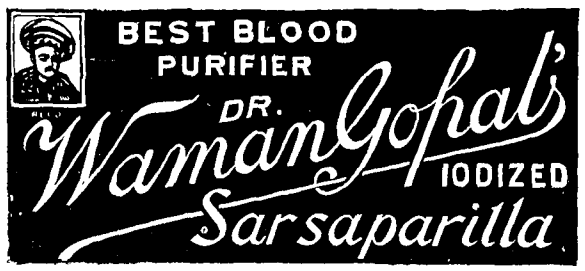

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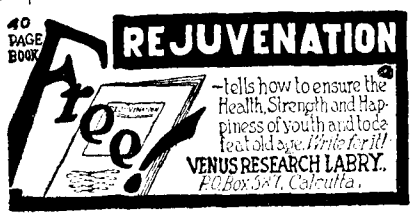

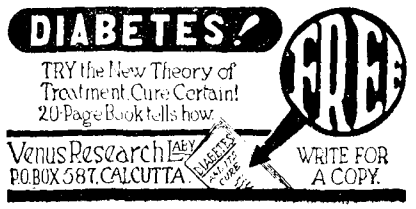

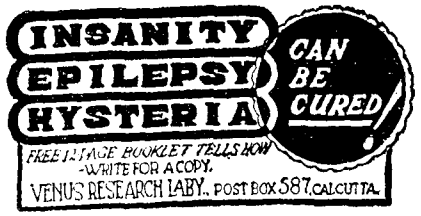

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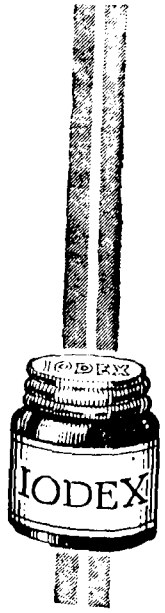

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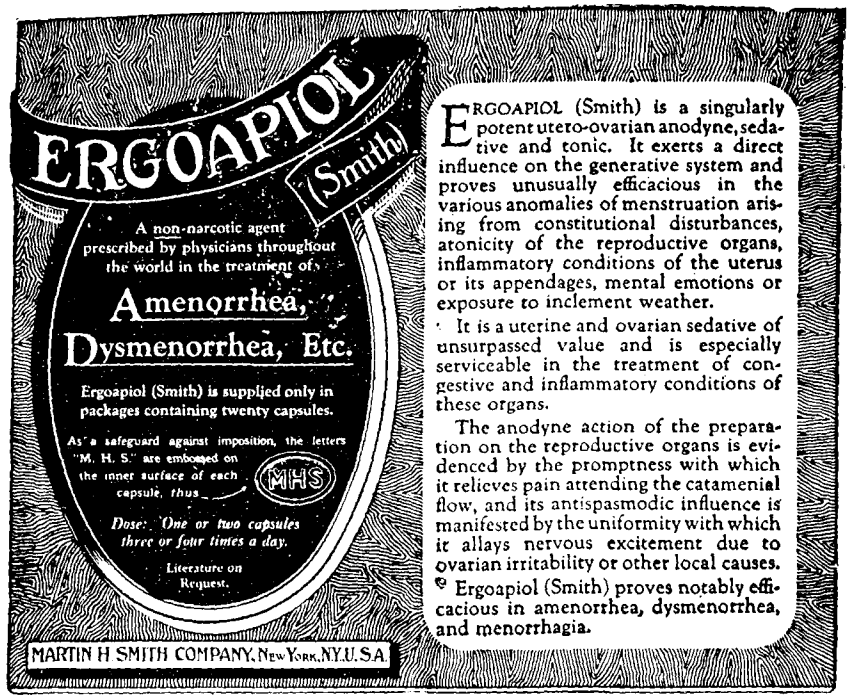

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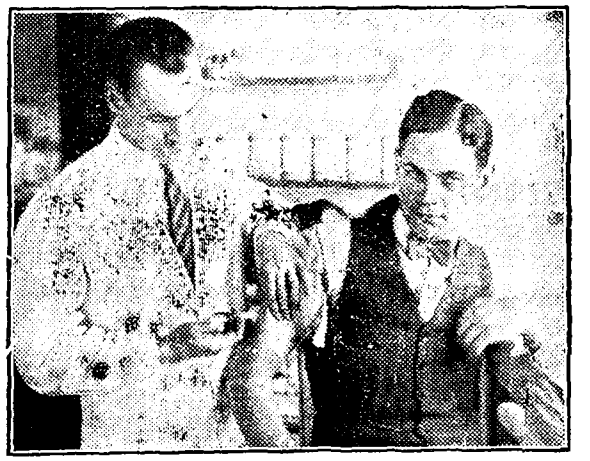

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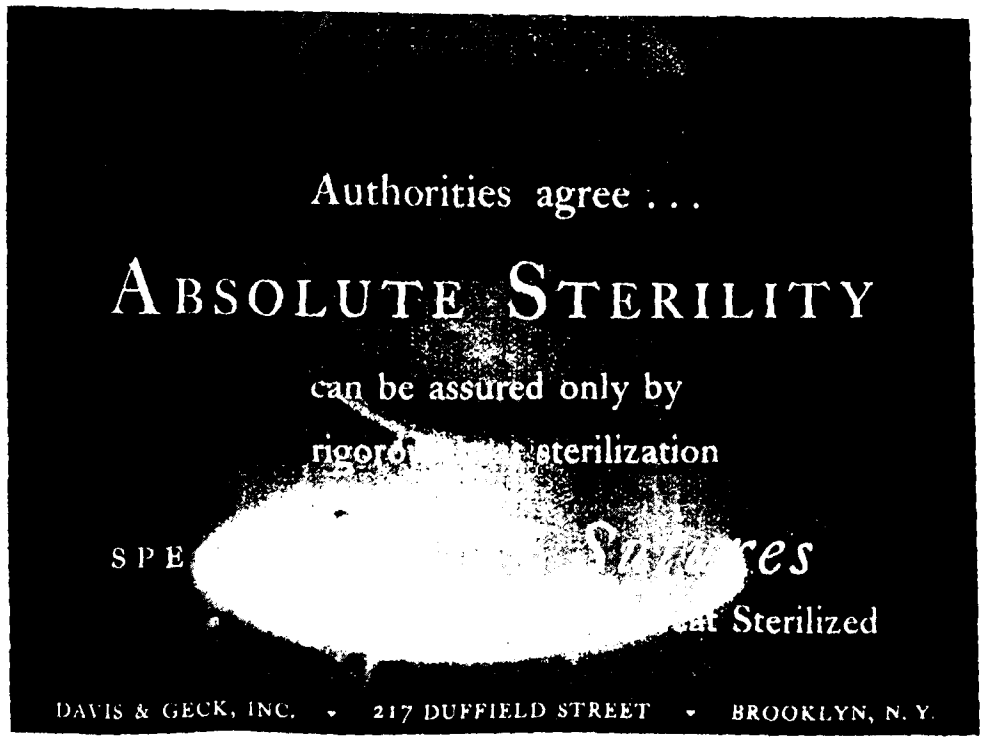

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Original articles

ESTIMATING THE WEIGHT OF LIVING ORGANS.*

BY

DR. EDWARD PODOLSKY, M. D., *Booklyn, New York.*

In describing the physical properties of any object weight is always of prime importance. Especially is this true of living beings. Weight is dependent on certain factors and when these change, weight undergoes alteration. Thus the heart may weigh so much when the patient is in a state of health, but when the heart becomes diseased and is forced to do more work than which it normally does, it becomes hypertrophied and increases in weight. In certain diseases of the heart it may assume so large a size that the term used to designate this particular pathology is bovis cordis, or ox heart.

In other diseases an organ may decrease in size and weight. Thus in certain diseases the liver atrophies, that is, it becomes smaller and weighs less. When a person dies and an autopsy is performed the first procedure the pathologist does, is to weigh the organs and thus arrive at an estimate of their variation from the normal.

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Weight tells quite a few important things about the state of an organ.

Thus far it has been able to estimate the weight of an organ simply by removing it and weighing it on a scale. Within the past few years physical anthropologists, particularly MacDonald, connected with the Government anthropological bureau has devised a formula for getting the weight of two living organs in the human body, namely, the heart and the brain, the two most important.

Perhaps from an anthropological point of view getting the weight of living organs within the human body is more important than a purely medical one. This method has been used by these scientists to compare the weights of the brains in the different races of mankind. This has also been the case with the heart weight. Physical anthropologists concern themselves mainly with comparing physical differences between the different races, and the formulation of two formulas to get the weight of two of the most important living organs has been quite an advance.

The most important step in establishing a formula is to arrive at the constants, certain figures when added to or multiplied by the variables, figures obtained by measurements, will give the answer. Constants are arrived at after a long series of measurements on similar objects or persons upon which the formula is to be used.

In getting the weight of the living heart in a normal person MacDonald has evolved the following formula :

Age of the person × ·0323 + 97·8322 = Weight of the heart in grams. In this formula the constants are the figures ·0323 and 97·8322 arrived at from thousands and thousands of measurements on persons. In a normal person the variable factor in heart weight is the age. As far as I know this is the only formula thus far proposed for getting the weight of the living heart in a person and it is used by physical anthropologists in their metrical researches.

The formula devised for approximating the weight of the brain in a living person was named after three anthropologists. It is called the Lee-Welker-MacDonald formula. The formula is as follows :

-(Head Length in centimeters-11) × (Head breadth in centimeters-11) × ·000337 + 406·01 = Cranial capacity in cubic centimeters, which when multipled by ·93 gives the weight of the living brain in grams.

These two formulas devised by anthropologists for approximating the weight of living organs is of great importance. While anthropologists are studying the physical characteristics of living organism they are also correlating them with the functional activities of these organs. They are also making comparative studies of the weights of the living heart and of the living brain in the various races of mankind and attempting to see whether there is a difference between brain weight in different races and racial characteristics. Research is constantly going on at the present time to evolve other formulas in an attempt to arrive at the weight of the other organs within the living body, and when this is finally done a great step will be made forward in the knowledge of living human anatomy.

RECENT ADVANCEMENT IN THE TREATMENT OF GONORRHOEAL ARTHRITIS IN MALE.*

BY

Dr. K. SINHA, M.B.,

Calcutta Genito-Urinary Clinics, Calcutta.

Gonococcal Arthritis undoubtedly is the most damaging complication of gonorrhoea. It occurs in from two to three per cent of gonococcal infection. It may make itself manifest during any stage of the inflammation. But it is very common in the subacute stage.

It is becoming a common knowledge to the urologists that the seminal vesicle is the starting point of gonorrhoeal rheumatism in the man and gonorrhoeal salpingitis in the woman. Thin walls and the rich vascular supply of the seminal vesicle render its inflammation very dangerous and liable to reach the blood stream. The vesical thus is the organ from which the gonococci are set free and bring about a pyemia. 'In practially every case which I have seen and followed up', says George Luys, in his famous book. 'I found that an inflammation of the seminal vesicle preceeded the out-break of the gonorrhoeal rheumatism'. This opinion has also been supported by Fuller of New York who resorts to vesiculotomy as soon as the gonorrhoeal rheumatism supervenes.

Recent method of treatment of gonorrhoeal arthritis is thus to sterilise the seminal vesicle in man as well as the local applications in the affected joints. Of all the methods the application of diathermy in the seminal vesicle as well as on the affected joints is the best. It is distinctly sedative to the inflammed joints. It acts as a specific in gonococcal arthritis by destroying the gonococci who are unable to survive in the heat generated by the electric current.

Vasotomy (Belfield's operation) has for its purpose, the sterilization of the infoctious focus in the seminal vesicles. The injection of an antiseptic solution into the seminal vesicles, constitutes a most valuable advance in the management of gonoccoccal arthritis. 'I have found it of the greatest value and regard it as the most dependable single measure for the relief of this condition', says Wolbarst of

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New York in his book. The joint lesion responds almost immediately to the attack on the focal point in the vesicles. Aided by the administration of diathermy and a polyvalent mixed vaccine, I have seen a quick and lasting response in joint cases which have resisted all other treatments. The operation is described as follows:

Under local anesthesia, the Vas deferens is exposed through a short incision in the scrotum, near the external ring. After carefully stripping its many fine coverings a 5 per cent argyrol solution 10 c.c. is injected into the vas by means of a syringe and a blunt pointed needle of fine caliber. The vas is then dropped back into the scrotal sac and a small gauze drain inserted which is removed in 24 hours. The skin and fascia are closed with a chromic suture and a dry dressing applied. The entire procedure if properly performed, is absolutely painless, my personal preference for the anæsthetic is a half per cent solution of procaine with adrenalin used freely.

To sum up the proceedings for the treatment of gonorrhoeal arthritis will be as follows:

If diathermy is available apply the current both to the joints as well as on the seminal vesicles every third day for 20 minutes. No medicine internally nor any external applications in the affected joints are absolutely necessary. After a couple of applications of diathermy you will notice that the inflammation is much lessened. Continue the diathermy as before. Start immediately the treatment for gonorrhoea that is irrigation, massage of the prostate and the seminal vesicles and the dilatation of the posterior urethra according to the rule laid down in the recent treatment of gonorrhoea. By so doing you will not only cure arthritis but also gonorrhoea.

But if diathermy is not available, local application of the affected joints such as 50 per cent ichthyol, iodex etc. becomes necessary. Salicylas though often fails may be tried. Vasotomy in such circumstances should be performed in all cases. After the acute symptoms pass off and the patient feels a bit relieved the instrumental treatment of gonorrhoea should be instituted till the patient is absolutely free from gonorrhoea. The following remedial measures advocated by Wolburst is supposed to be the best. Gonococcal arthritis responds in an extraordinary manner to contramine. In acute cases, four intramuscular injections of contramine each of ·125 grm. should be made every other day followed by small doses of vaccines and then a series of contramine and vaccine alternately until the trouble has cleared up. In chronic cases 2 or 3 injections of contramine each of ·25 grm. should be made at 5 day intervals. After the joint trouble is much less or disappeared the modern instrumental treatment of gonorrhoea should be instituted.

The above method of treatment is only applicable when there is not much accumulation of pus in and about the affected joints. When there is much accumulation radical surgical measures may be necessary, such as joints may be tapped, the fluid withdrawn and the joints irrigated with a hot antiseptic solution. If tapping is not sufficient open operation must be made by incision.

SPRING CATARRH.*

BY

T. C. BASU CHOWDHARY, L.S.M.F.,

Medical Officer, I/C St. John's School Dispensary, Agra.

I am writing here about a disease which is a pretty rare one and which is always liable to be confounded with the granular lids (Trachoma) by doctors and even sometimes by experts. During the last three years I have seen only four cases of this disease and all of them are young students. They all went to good many doctors and nearly all of them diagnosed these cases as of trachoma and some of them applied nitrate of silver lotion (20 grains to ℥i) and few of them even went so far as to do expression unhesitatingly. I have tried to put in here all the practical points which will enable a general practitioner to diagnose such cases easily so that unnecessary trouble to the patients as well as to the doctor may be saved. In the end I shall give a brief history of all these four cases.

Synonyms:—Vernal conjunctivitis: Spring conjunctivitis. Fruejah's catarrh: Phlyctemula Pallida: Circum corneal hypertrophy of the conjunctiva.

Definition:—This is a kind of chronic conjunctivitis with granular lids which appears with the beginning of the spring and reaches its zenith in the summer season and abates or in other words the troubles begin to ameliorate as the winter approaches. Therefore, it is a seasonal disease and lasts for years. It heals up itself leaving behind no trace of the disease either on the conjunctivæ or on the cornea.

History:—It was first studied by Arlt in 1846 when he described this disease as a peculiar variety of "Conjunctivitis Eczematosa." After him came Desmarres who mentioned it under the title "Hypertrophic Perikeratique." Von Graefe describes it as "Gelatinous thickening of the limbus" and Hirschberg as "Phlyctaena Pallida." Now it is the time to go even into more detail and that is why when Saemisch studied it thoroughly he brought into prominence the characteristic exacerbation of the disease during the hot weather and therefore, seeing its seasonal characterstic he named

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it "Spring catarrh" by which name it is at present commonly designated. Horner went even into far more detail and discovered the peculiar character of the tarsal conjunctiva, and thus completed the whole picture of the disease, since then no remarkable discovery regarding the disease has been added to the science of ophthalmology.

Geographical distribution:—This is generally found in the tropics, though it is, sometimes seen in the cold regions also but nearly all such cases are imported from the tropics. But there are some exceptional cases which occur in the cold countries themselves. In England and France the tarsal types are prevalent, while in Italy, Egypt and in other Mediterranean countries the bulbar forms are more often observed, whereas in India both the types have been seen but the tarsal type is more common than the bulbar. Spring catarrh and trachoma sometimes occur simultaneously especially in Palestine where spring catarrh is fairly frequent (Butler).

Aetiology:—The cause of the disease is unknown (H. E. Fuchs). It is a pretty rare disease. It is a recurrent one occurring with the onset of summer season and, therefore, it is rather a summer than a spring complaint. It chiefly affects the male sex usually between 5 to 20 years of age. Fair coloured are more exposed to this disease than the dark coloured. It is generally found in those who are scrofulous and who display besides pallor of the complexions multiple swellings of the lymphatic glands, especially on the neck and lower jaw. It has also been seen in persons who are quite healthy and strong. It occurs in all grades of society and is not influenced by occupation. In my opinion rays of the sun especially actinic rays of the spectrum, dust and smoke play very important part in the aetiology of this disease. Both the eyes are generally affected. Malaria and uterine disorders are supposed to be etiological factors (J. M. Ball, M.D.). It may be associated with the hay fever also (May and Worth). The disease is sporadic and non-contagious.

Course:—The disease makes its visit annually in the summer season. It lasts for three or four years and often longer still, for ten or even twenty years, until finally it becomes extinct, without leaving any marked trace of its presence behind.

Prognosis:—Considering its ultimate result the prognosis is good but considering its duration it is very bad.

Kinds:—There are two forms of spring catarrh viz., (1) The Palpebral form; (2) The Bulbar form. There is a third form also relatively rare.

Signs and symptoms Subjective symptoms: All the usual symptoms of mild conjunctivitis are present. The patient complains

of burning or itching sensations and heaviness of the lids. Sometimes photophobia exists. Lacrymation is one of the chief symptoms. In hot weather the symptoms get aggrevated and with the approach of winter season the condition subsides. There is muco-purulent discharge also.

Objective Symptoms:—In cases of palpebral form the whole conjunctiva is covered with papillae which are broad and flattened, so as to make the conjunctiva appear like a pavement of cobble-stones (Fuchs). Over these papillae lies a film of bluish white colour. It appears as if a layer of milk had been spread over the conjunctiva. These flat nodules are more dense in the centre portion of the conjunctiva; they are very few or they might not at all be present on the two side ends of the conjunctiva. The lower margin of the lid is also free. The papillae are broader and denser near the lower end of the tarsus. The eyes are red and the upper lids are hypertrophied.

In cases of bulbar conjunctiva the limbus may show a jelly like milky band around the cornea or minute red dots may be present in the space corresponding to the palpebral fissure. It may be mistaken for phlyctenular conjunctivitis.

The patient has a dull, sleepy look owing to the slight ptosis which is present.

Diagnosis:

CARDINAL POINTS.

1. *History*:—Annual recurrence with the advent of hot weather.
2. *Age*:—Young age of the patient. No old man of forty will have this disease.
3. *Colour*:—Nearly always the colour of the patient is fair.
4. *Eyes*:—Both eyes are affected.
5. *Nodules*:—They are all flat and not round.
   They are arranged like cobble stones.
6. *Film*:—The nodules are covered by a film which is bluish white in colour.
7. *Lids*:—Only the upper lids are affected.
8. *Unaffected part*:—Fornix and the lower margins of the tarsus are free.
9. *Groove*:—There are distinct grooves separating the nodules.
10. *Complications*:—There are no complications.

Palpebral form of spring catarrh is always mistaken for trachoma which is more common in India.

SPRING CATARRH.	TRACHOMA.
1. History of annual recurrence.	1. No such history.
2. Occurs in all grades of *society*.	2. *Generally in poor people.*
3. Generally young people are affected.	3. No such age restriction.
4. *No definite cause is known.*	4. *There are some known causes.*
5. Both eyes are generally affected equally.	5. Not necessarily.
6. Granulations are situated on the surface of the tarsus and consist of *fleshy flat growths* with pedicles and there are warbed grooves between them.	6. Granulations seem to be *deep in the substance* of the tarsus, oval in shape of greyish *transparent* tint. There are no grooves in between them.
7. These nodules are covered by bluish *white lining*.	7. *There is no such lining.*
8. Fornix is free.	8. Fornix is especially affected.
9. Pannus or corneal ulcer a rare exception	9. Gives a special form of pannus beginning on the upper part of the cornea; corneal ulcer frequent.
10. Conjunctiva has bluish white tinge.	10. Conjunctiva never bluish *white but a bright or dark* red.
11. Disease heals without *leaving* any traces on cornea, tarsus or fornix.	11. Cicatricial tissue on tarsus and fornix always left, after pannus there may be fixed opacity of the cornea.
12. In treatment copper sulphate, nitrate of silver and mercurial preparations always irritate the growth, and do no good whatsoever, in fact are positively harmful.	12. All these substances are beneficial in the treatment of this disease.

The bulbar form of the spring catarrh resembles more or less phlyetenular conjunctivitis. As regards its differential diagnosis the following points should be remembered :—

1. History of annual recurrence.
2. The trouble is much aggravated specially in the hot season and is abated in the winter months.
3. Jelly like milky brand around the cornea.
4. Red eyes.
5. Both eyes are affected.

Frequently the bulbar type of spring catarrh with a single tumour mass can be differentiated from sarcoma and epithelioma only by a microscopic examination.

Pathology :—After cutting a vertical section of a large granular body we see under microscope proliferation of epithelial cells and the presence of lymphoid cells with bands connective tissues.

Complications :—There are no serious complications except a peculiar corneal opacity occurs which resembles "Arcus Senilis." Thickening and discoloration of the conjunctiva may remain.

Treatment : There is no known treatment (May and Worth). *The treatment is purely* symptomatic. Though there is a long list of medicines, the utmost that can be done will be to relieve the distressing symptoms and stop the encroachment of the disease upon the cornea. *According to Fuchs* inflammation can be combated by instilling mild astringents e.g. solution of zinc sulph ($\frac{1}{2}$ per cent) and of boric acid 3 per cent) and ichthyol 1-2 per cent). But according to Parsons all the astringents are harmful: he recommends locally "boroglyceride" and arsenic internally. For the itching a frequent instillation of a weak solution of acetic acid 5 drops to 10 gms of water) does good service. Dionine is also said to afford much relief and anaesthesin has helped in many cases (Swift). Van Milligen of Constantinople advises the use of a solution of acetic acid (from 1 to 20 grains to the ounce). Magnani of Turin and Gallenga of Parma advocate ice cold packs for ten minutes at a time five or six times a day. Darier recommends silver and copper in very severe cases. Neroform has given excellent results in cases of Natanson and Bock. Randolph uses salicylic acid in solution of 1 per cent and as an ointment also. Dr. J.M. Bell M.D. recommends boric acid baths and rubbing into the conjunctiva once or twice the ointment of yellow oxide of mercury or of ammoniated mercury. Radium application may give relief in some cases. Excision or expression of the nodules sometimes advised, seem to be useless. Holocaine solution 1 in 10,000 or adrenaline, sometimes, works very well and gives immediate relief.

In my opinion all the drastic measures such as application of blue stones, silver nitrate, radium or excision or expression have got no value whatsoever. In my cases what I did was to wash the eyes thoroughly with the corrosive sublimate lotion 1 in 5,000 and then rub the granules with the xeroform and boric acid after dropping a few drops of cocaine lotion. The rubbing should either be done by a piece of cotton or by a piece of gauze wrapping it on the index finger. After doing this white precipitate ointment or salicylic ointment 1 per cent should be applied. Application of cold is very useful. The eyes should thoroughly be protected by well-fitting coloured goggles. Crooks glasses especially Crooks B have got very good effect on the eyes of those patients who suffer from this disease together with dimness of vision.

The general health should be attended to. If there is anything wrong give arsenic, iron and quinine etc. Attention to be paid to adenoids and enlarged tonsils, if present, may be cut at once.

I can safely say that if this treatment is carried on regularly for 4 to 6 months, even the severest type of spring catarrh disappears without any complication.

For bulbar type I have used corrosive sublimate lotion 1 in 5,000 for washing eyes. After thoroughly washing the eyes dust Neroform and boric acid in proportion of 1 to 3. Occasionally drop adrenaline chloride 5 drops. Of course this type is very obstinate and takes a longer time but it clears up if this treatment is carried on zealously for a considerable period.

The patient should always try to give perfect rest to the eyes. He should never expose himself to dust, smoke and sun. He should always wear tinted glasses and try to avoid dazzling light such as a gas or electric light.

Brief history of my four cases.

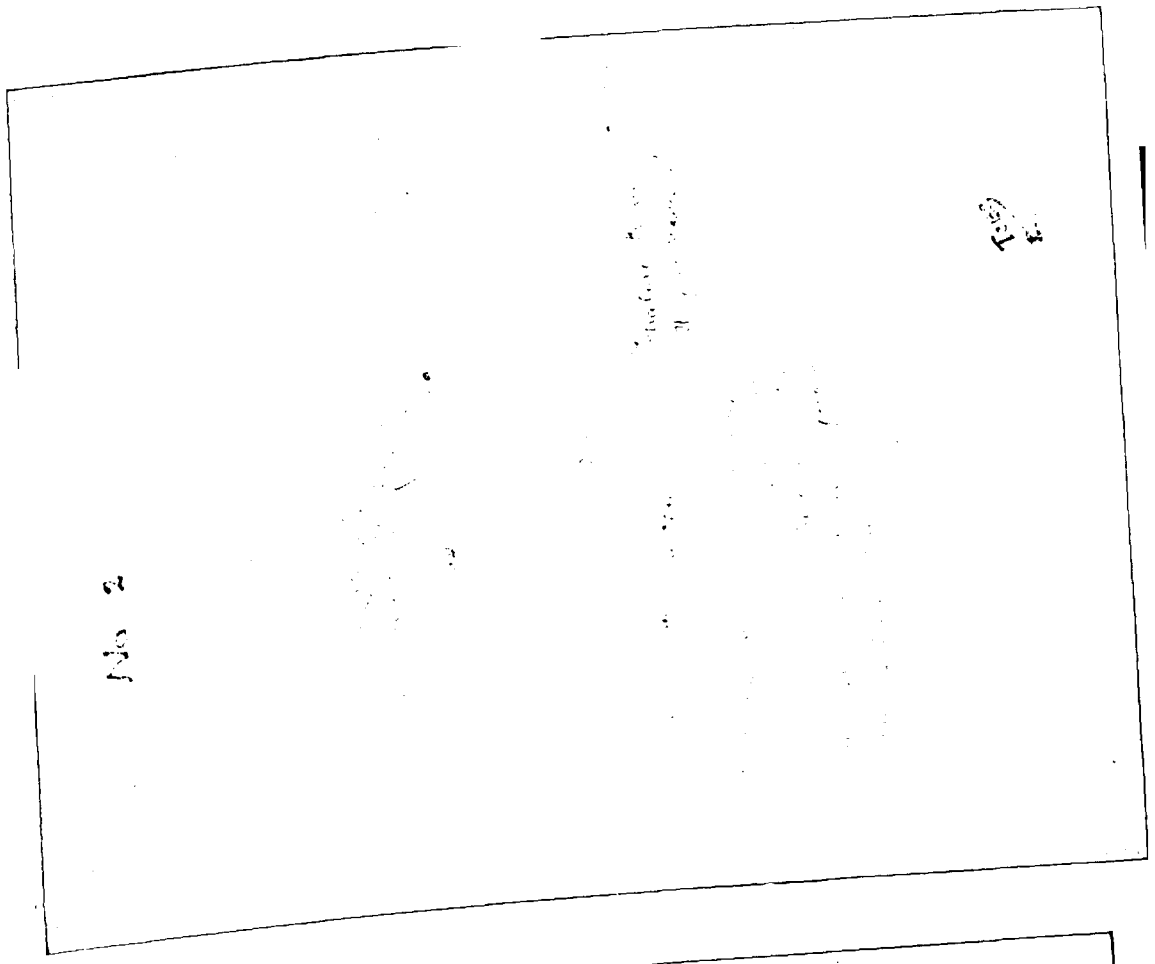
Case No. 1.

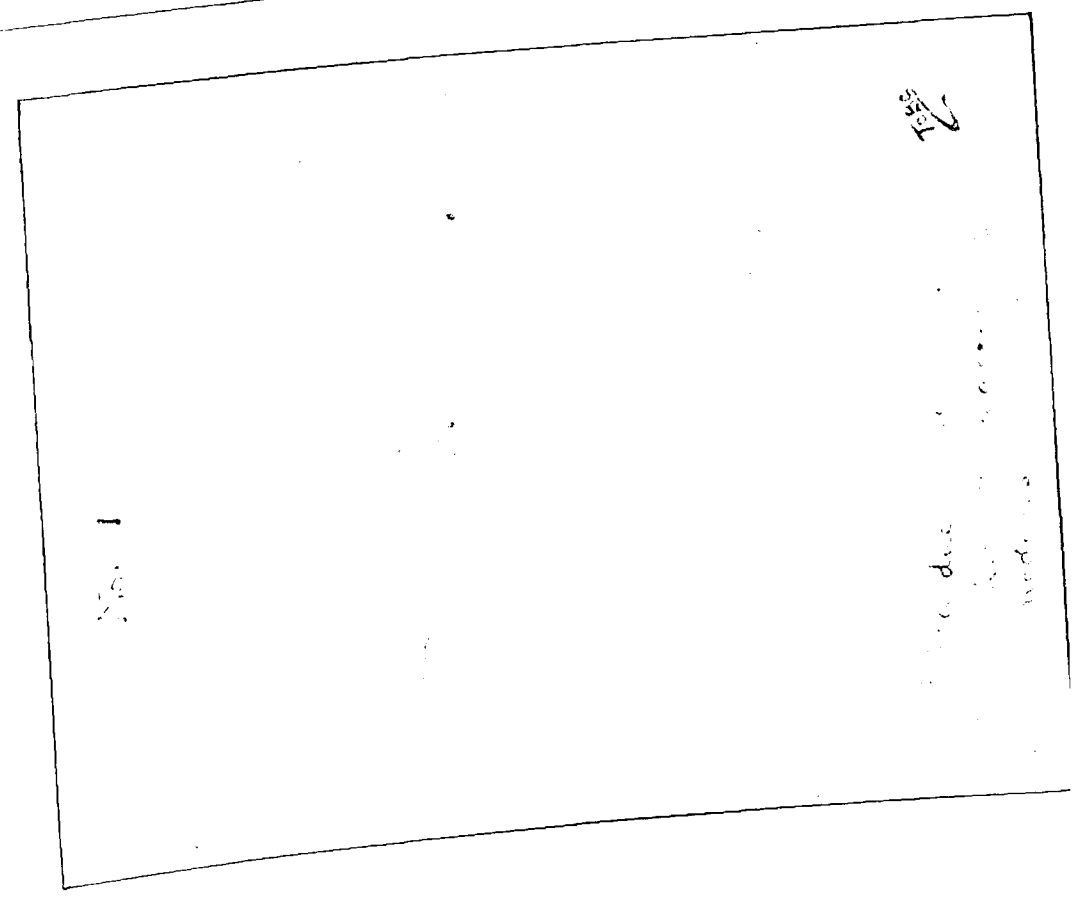
Name: M. Hussain. *Age*: 16 years. *Occupation*: student. *Resident*: Mantola, Agra.

Family history: No particular history. His parents are rich people but live in a very dirty Mohalla.

Previous history.—He was suffering from this disease for the last 5 years. He had been treated by good many doctors, and all of them applied silver nitrate lotion 10 or 20 grains to an ounce, blue stones and some did expression but of no use. At last he came to the hospital.

Present history:—Now for the last one month he is having much trouble. Itching lacrymation and photophobia are all present. There is also heaviness of lids. On examination granules present a beautiful picture of the disease.





Treatment: The above boric acid xeroform treatment was continued for 3 months. He was requested to put on smoke coloured goggles for a considerable period. Cold packs are one of the essential things.

Result. He became quite alright.

CASE NO. 2.

Name: D. N. Chowbey. *Age*: 18 years. *Occupation*: Student. *Resident*: Farrukhabad.

Family history:—No particular history. His parents are alive and live very decently.

Previous history:—He was suffering from this disease for the last 8 years. His conditions become alright in the winter season but with the advent of hot season troubles go from bad to worse. He cannot continue his studies as every year he has to abandon the idea of appearing for the yearly class examination. He had been to good many doctors but of no use. He came to me finally.

Present history:—Now as it is winter season the troubles are not so acute and troublesome as they were during hot weather but even then he complains of heaviness of the lids, severe lacrymation and itching but little photophobia. All the objective signs are present

Treatment:—As usual. Vide Case No. 1.

Result:—He took about 8 months to become quite alright.

CASE NO. 3.

Name: N. L. Verma. *Age*: 18 years. *Occupation*: Student. *Resident*: Etah.

Family history:—No particular history. His parents are alive and they are big zamindars of the district.

Previous history:—He has been suffering apparently for the last six years. He complains of seasonal recurrence of the disease and the abatement of the symptoms with the approach of winter. He went to big hospitals but could not stay there for a longer period on account of household affairs. Major portion of the time he was treated by the local doctors and they always took the help of silver nitras, copper sulphate and lipus divinus.

Present history:—He is complaining now of severe lacrymation itching and heaviness of the lids. Photophobia is also present. All the typical objective symptoms are present.

Treatment:—As usual. Vide Case No. 1.

Result:—He took about 6 months to become quite alright.

CASE NO. 4.

Name: D. Upadhya. *Age*: 12 years. *Occupation*: Student. *Resident*: Agra Cantt.

Family history:—Nothing particular. His father is a local *Vidya* and has got a good practice in villages.

Previous history :—He has been suffering from the last four years. He had been treated by good many doctors but of no use. The cause of this is that he does not like to stick to one doctor for a long period.

Present history :—He complains of lacrymation, photophobia, itching. There is no heaviness of the lids. Both the bulbar conjunctiva around the cornea are inflamed just like overgrowths. The eyes are red.

Treatment. Boric acid xeroform dusting, cold packing. Wearing of coloured goggles. This treatment was continued for about three months but as the patient is unwilling to stick to this treatment any longer, I cannot give any definite result but this much I can say that he was improving very rapidly.

Result :—Not known.

BATHS.

By

G. L. SANONA, L.T.S., L.M.P.,

Medical Officer, Pratabgarh, Oudh.

(*Continued from p. 801, Vol. XXVIII, No. 11.*)

(a) *Tepid bath* : Its action is detergent, sedative, and antipyretic and is employed in restlessness, pyrexia and some skin affections, the temperature is 85°F to 95 F.

(b) *Warm bath* :—The patient having his head covered with a cold cloth, lies fully immersed in water at 95 F to 100 F used in fevers, threatening inflammatory disorders, pneumonia, bronchitis etc. also in severe skin eruptions like pemphigus, and in nerve lesions, such as paraplegia, locomotor ataxia, and hemiplegia contractures, sciatica, muscular and articular rheumatism. The average temperature is from 95°F to 100 F.

(c) *Hot bath* : Temperature 100 F to 106 F. The action is just like warm bath but is more powerful.

(d) *Hot foot bath* : A household remedy. It is beneficial in threatened catarrh, coryza, epistaxis, infantile convulsions, congestive headache, some forms of insomnia. Also restores menstrual discharge stopped by cold.

(e) *Hot hip bath and hot sitz bath* :- These are useful in amenorrhoea, dysmenorrhoea, sudden cessation of menses from cold dysuria, cystitis and other pelvic and generative disorders. The addition of a little *mustard* helps to re-establish the menstrual flow more quickly.

* Specially contributed to the "Antiseptic."

(f) *Hot sponging* :—Here the head, temples and neck are sponged thus relieving influenzal headache, catarrh and other disorders.

(g) *Hot douche* :—A very hot douche between 101 F to 115 F is the best method to check post partum haemorrhage. Hot douche enema is given in cholera and collapse to increase body temperature. Hot vaginal douche is beneficial in leucorrhoea. The thermal douche is only applicable to general disorders or local condition of an asthenic type. It is a powerful stimulant, arousing dormant nutritive processes. It is valuable in chronic glandular enlargement in congestion and inaction of the abdominal viscera and in degenerative conditions of the joints, also in nervous debility and troper in paralysis and in some cases of anaemia and inaction of the skin. It should never be prescribed in rheumatism and gout until the inflammatory stages have quite subsided. There are many kinds, classified according to the part of the body treated, as head, spinal, or perineal douches, or according to the temperature of water, as hot, tepid, cold: or the form of the stream of water, as *needle-spray, rain and fan*, under more or less pressure. Douches are useful in treating limited parts of the body.

(h) *Hot fomentations or compresses* :—These are applied with cloth, sponge or flannel wring out of very hot water pure or medicated and are applied to the required part. Another method is to soak the flannel in very hot water and cover with several layers of dry flannel. Hot compresses relieve the pain from any part of the body and are thus of much benefit in relieving pain and inflammation. They are generally applied in *lumbago*, sciatica, other neuralgias, tympanitis, colics, pain in connection with eye diseases, arthritis, sprains, bruises, and cramps. If to the inflammed surface, it is applied in the incipient stage, it will cure otherwise it will hasten suppuration in advanced cases, hence useful in relieving pain etc., in boils, abscesses, whitlows, and carbuncles etc. The fomentations must be applied every ten or fifteen minutes, and in no case should it be left on until cold or clammy. It may be made antiseptic by adding corrosive sublimate 1:1000, or carbolic acid 1:40. Only well squeezed fomentations should be given or they are liable to cause burning and skin eruption.

Stupes :—These are also fomentations generally applied on the abdomen and for eye troubles. One must carefully note, that the stupes are being applied alternately, part not being allowed to be exposed to air —this practice being faulty as well as harmful. In *turpentine stupes* which are applied to relieve tympanitis, turpentine oil is sprinkled over the wrung out towel if counter-irritant action is needed and *laudanum* if a sedative effect is required or a little

opium or poppy seeds are put into the warm water used. *Terpentine stupes* are also prepared by stirring ½ oz. of oil turpent. to hot pint of boiling water until emulsified.

(i) *Hot water bottles*:—This bath is also called *Sir J. Simpson's* or *Poorman's bath*. In this 5 or 6 bottles filled with hot water and wrapped in cloth or flannel wet with hot water are put by the side of the patient under blankets or they are applied to the feet. Some say that the bottle should only be half filled with water and encased with a thick flannel or blanket cover, otherwise the patient may be burnt. This is especially liable to occur when the patient is under an anaesthetic. Generally applied in collapse.

(j) *Graduated bath*: The patient is placed in a bath full of water at 90 to 95 F. The temperature is reduced every five minutes until 60 F is reached. If the patient's fever be not then reduced to 100 F or lower, he may be left for another fifteen minutes if his pulse is sufficiently strong. The pulse must be closely watched and alcohol should be given if necessity arises.

(k) *Hot wet packs*: This is done in the same way as cold wet pack, with hot instead of cold water. It is useful in anaemia, infantile convulsions, and bronchitis in children, and very valuable in uraemia, especially in the uraemia of pregnancy.

Hot baths to produce hyperpyrexia: Fever therapy may be used to intensify the effect of antisyphilitic medication, and may be applied along with it. *Neurosyphilis* seems to offer the most favourable field for treatment by hyperpyrexia. Frequent amelioration of individual symptoms is obtained in *Parkinson's syndrome* following encephalitis, also in *combined sclerosis*. *Pain* resulting from minor disturbances in muscle, nerve and joints, are especially amenable to this treatment.

Fever produced by baths is under perfect control and can be maintained at any degree or for any length of time upto two hours. It may be applied on alternate days or even on every third day, if necessary. Baths may be continued daily for at least 6 weeks and the patient may still gain in weight and maintain his strength. In ordinary series some 14 baths are given followed by a period of rest. At times, twice this number is given consecutively with no added difficulty. In some conditions other than neurosyphilis, it seems preferable to give a bath every other day, or rarely every third day.

Technique: The patient is immersed in a bath at 110 F. With timid patients or on the occasion of first bath, the temperature is sometimes started at 105 F. Ordinarily, 110 F is maintained until the temperature of the patient reaches a point within ½ degree of the fever desired. Then the temperature of the bath is gradually reduced until it corresponds with the temperature of the patient. The

ordinary bath lasts one hour, but when indicated, it is feasible to maintain the patient's fever for another hour by wrapping him in blankets and placing a few hot water bottles in the bed. Liquids may be administered by the mouth, but they must be hot.

1. (B) *Medicated baths*:—Here some medicinal agents are dissolved in hot or cold water. The following are the chief baths:—

(a) *Sea bath*: The sea water contains many saline ingredients in it: hence this bath is especially invigorating and stimulating to the skin, particularly when the water is boisterous. It is more easily borne by weak patients than river bathing, as in this the temperature remains nearly more or less the same. Sea baths increase the resistance of the skin to changes of temperature and to damps, and therefore tend to prevent, catarrhal and rheumatic affections. They are very beneficial in many atonic conditions, whether dyspeptic or nervous, in anaemia, chlorosis, and scrofulous and rachitic affections, also in asthma and other respiratory disorders. They should not be prescribed in eczema, erysipelas, phthisis, nervous erythism, and bilious and hepatic dyspepsia.

Seaweed bath is a semi-liquid consistence prepared from the crushed bladder-wrack.

(b) *Common saline bath*: There are many mineral spas of this kind in foreign countries, but this bath is uncommon in India. *Soda bath* is prepared by adding about ½ to 1 lb of soda to a full bath. The bath is taken for about one hour and is useful in chronic rheumatism, fibrositis and other skin troubles which cause itching. *Salt bath* can also be prepared by taking sodium chloride or sea salt 4 to 8 ounces and adding to every gallon of water.

(c) *Carbolic acid bath*:—1 in 80, used in sloughing and suppurating wounds to clean them

(d) *Acid bath*:—Here a flannel roller one foot broad is soaked in a bath which contains acid N. M. Dil 8 ounces in one gallon of water at 98 F and is wrapped twice round the hepatic region, after wringing out the superfluous lotion. It is now completely covered by a piece of oiled silk leaving a little margin. The bath should be renewed morning and evening and worn for several days. It is useful in hepatic disorders. The bath can also be prepared by taking acid n. m. dil 14½ ounces and adding it to 30 gallons of water.

(e) *Alkaline bath*:—Add two large handfuls (8 ounces) of common washing soda to 30 gallons of water at 95 F (strength usually 1 dr. to a gallon). The patient remains 20 minutes in first bath, and the time is gradually increased upto 45 minutes. Put the patient then to bed in blankets. It is valuable in chronic rheumatism and should be applied daily for six weeks. At first the pains

are increased. Also valuable for chronic eczema and in removing scales and scaly incrustations. Also used in blepharitis etc.

(f) *Sulphurated bath* :—Most of the numerous cold and thermal sulphur waters are used externally. Some importance appears to attach to the combination in which the sulphur element occurs. Sulphuratted hydrogen is readily absorbed through the unbroken skin, but not alkaline sulphides, again the associated constituents of water, e.g. in muriated sulphur waters powerfully affect the action of the bath. Pure sulphuratted waters, like those of Weilbach or Strathpeffer, are employed as baths in eczema, scabies and other skin troubles, in sub-acute rheumatism and in gout etc. The use of baths, however, tends after a time to increase or revive old eruptions. At Aix-la-chapelle they are habitually prescribed in syphilis. Some very hot thermal sulphur baths of Japan, contain large quantities of free sulphuric acid and are also prescribed for syphilis. At home, sulphur bath can be prepared by means of the proprietary preparation sulphagna. Eg. Potassium sulphide ¼ oz to every gallon of water or as follows :—

℞

(1) Pot. sulphurat ʒij
Acid acetic dil or vinegar oss ½ Pint :
warm water 20—30 gallons.

℞

2. *Artificial Sulphur bath.*

Sea salts	drs 8
Soda sulph	drs 3½
Cal. chloride	drs 7
Magnesii chloride	drs 3
Aqua Qs ad O	8

Misce.

3. *An approved sulphur bath*

℞

Alcohol	830 Parts.
Ol. Terebinth	180 ,,
Ol. Eucalypti	60 ,,
Sulphuratted potash	140 ,,
Glycerine	60 ,,

Misce.

(g) *Mustard bath* : -It is a powerful stimulant to the skin and is used to quicken the appearance of exanthermatous eruptions. The patient should remain in bath for 5 10 minutes. It is also used as sitz bath or hot hip bath for menstrual disorders. The

usual strength is mustard ½ to 1 oz to every gallon of water, as hot as can be borne. Rub the mustard to a smooth paste with cold water before adding it to the hot water.

(h) *Pine bath* :—Among other aromatic preparations an extract of pine leaves is made and employed as an agreeable addition to the warm bath at many spas.

(i) *Carbonic acid bath* :—*Gaseous muriated bath* (*Nauheium bath*) :—Some muriated waters contain free carbonic acid gas in sufficient quantity to affect the skin as a mechanical stimulant. It exerts a tonic, sedative antipyretic effects to cool temperatures with an active peripheral stimulation. The Nanheium treatment is most effectual of course when undertaken at the springs but artificial Nanheim baths may be taken at home and from these excellent results may be obtained. They depend chiefly on their action upon the evolution of carbonic acid gas and may be employed in various strength : —

Bath No. i	Sodium chloride 4 lbs :	calcii chloride	6 ozs.		
,, No. ii	,, ,,	5 ,, :	,, ,,	8 ,,	
,, No. iii	,, ,,	6 ,, :	,, ,,	10 ,,	
,, No. iv	,, ,,	7 ,, :	,, ,,	16 ,,	
,, No. v	,, ,,	9 ,, :	acid Hydrochloric	12 ozs.	
			calcii chloride	11 ,,	
,, No. vi	Soda Bicarb 10 ,, :	acid Hydrochloric	1 lb.		
			calcii chloride	1 ,,	

or Sodium chloride 3% calcii chloride 1 % and carbonic acid free gas upto 3 grms to a litre. The treatment is commenced with weak saline at a temperature of 92° F to 95° F. These baths should be given every other day for a week, the patient remaining in baths for six minutes. The strength is then gradually increased and the patient remains in bath for about 20 minutes, with the temperature lowered to 85 F, if he can bear it. In a fortnight or more, effervescing baths are employed e.g. No. 5 and 6. It is simpler to employ "Sandow's Tablets", and powders, which contain the ingredients for baths specially prepared in a convenient form for ready use. Treatment extends over five weeks. The effervescing baths are ordered according to the discretion of the attending physician, and in severe cases, it is sometimes unsafe to employ them at all. These baths are generally employed in functional and organic diseases of the heart, also for their tonic and sedative action on the nervous centres.

(j) *Neem bath* :—It is prepared by adding the decoction of Neem (Melia azadirachta) leaves to the ordinary bath. It may be general or local. It is largely used in India in various skin disorders e.g. scabies, boils, urticaria, also used to wash foul and septic ulcers, and

to clear scabs and infectious material from the body after cure from the infectious diseases e.g. small pox, chickenpox and measles etc.

(k) *Bran Bath* :—Bran 4 lbs are boiled in one gallon of water and strained. This liquor is added to water sufficient for a bath. It is generally used to remove the irritation of the skin. Some use wheaten bran 64 ounces to 30 gallons of water.

(l) *Muriated (Brine) baths* : It is believed that in muriated baths some salt passes through the epidermis and affects the nerve endings. The stimulant action of these baths is found to be proportional to the strength of the brine. The deposit of saline particles on and in tissues occasionally causes eczema or urticaria on sensitive skin. In brine baths nearly saturated solutions are used as a stimulant in muscular rheumatism, sciatia, in chronic articular affections and as a tonic in convalescence, also in lumbago and chronic inflammatory disorders of the pelvic viscera.

(m) *Acid boric bath* :—Boric acid 2 ounces to every gallon of water.

(n) Balneum creol, Vel Picis credin ℥ss to ℥ii or Liq. carbonis Detrey ℥i to ℥iv in 20–30 gallons of water, well stirred useful for puritis, Prurigo. ch. Eczema, and all itching affections.

Vapour baths :—A natural vapour bath is provided wherever warm vapours issue in a grotto or cave, or are artificially led from their source or from the surface of thermal water to an appropriate chamber or "bonillon". They vary from 80° F to 120° F or 130° F in temperature. The hot vapour condenses on the body surface, with the development of heat, but without the pressure effects of the ordinary baths. Perspiration is induced quickly, epidermis softened, and the circulation and nutrition of the skin increased. The pulse becomes full and frequent and if the head is included, there is corresponding fullness of the pulmonary capillaries. These baths are said to promote the resolution of lymphatic engorgements and remove indurations and concretions in the neighbourhood of joints; they also help to soften harsh, hard, thickened and inactive skin and promote healing of sluggish ulcers. On nervous system they act as a sedative. The heat of vapour bath should bear in inverse proportion to the heat or febrile excitement in the patient. These baths may be simple or medicated.

(A) (i) *Aquous* (A simple vapour bath) also called

Steam bath :—The patient is seated on a cane-seated chair and covered with blankets upto the neck. The steam is generated by boiling water over a spirit lamp placed under the chair. The patient if unable to sit on the chair, may be laid on a charpai and the process carried on.

(ii) *Russian bath* :—Consists in the exposure of the body to moist vapour at different temperature. It is very similar to Turkish bath, but the air is full of vapour of steam, hence can't range so high : perspiration is induced more rapidly and the bath is of shorter duration. In both these agents, the object is to induce the *rapid elemination* of toxins and other poisons and at the same time to assist in maintaining the free mobility and function of the various parts of the body by massage. Either may be employed advantageously as a routine preventive of gout or rheumatism, stiff-joints malarial fever and skin diseases especially by those who are unable to secure suitable exercise. Russian bath is said to be risky to persons with weak hearts, and hence the more danger of stroke.

(b) *Medicated vapour baths* :—These baths are generally used locally, more especially on respiratory tract e.g. in pneumonic phthis is bronchitis, tonsillitis, pharyngitis laryngitis etc. These are inhaled either pure or in steam. The following drugs are used in either :—

(1) *In pure* :—Ether, chloroform, amyl nitras, oxygen etc,

(2) *In steam* :—Creosol, acid carbolic, Tr. Benzoin Co. Tr. Iodi, ext. Lupuli, ol. eucalypti, terebene, and ol pini sylvestris etc.

B. *Voltalized drugs* :—e.g. calomel and sulphur are used. For calomel the following method is employed :—The patient is seated naked on a cane-bottomed chair, and coverd with a blanket or especially constructed cloak reaching from the neck to the ground and not touching the body. Twenty to thirty grains of calomel are placed on a metal plate surrounded by a trough containing about an ounce of water. The water is boiled and the calomel sublimed, by means of a spirit lamp placed under the chair. In about 20 minutes all the calomel is volatalized and deposited in part upon the skin of the patient, who perspires freely during the process. He then gets into bed between warm blankets without wiping the skin. This is generally used in syphilis when the cutaneous erruptions are very extensive.

Similar bath is given with sulphur and is applied in scabies.

(iii) *Air Bath—(Turkish bath)* : —Remove the clothing and lay the patient in a blanket, adjust the wicker frame work and cover it with 3 or 4 blankets, which should come up well under the chin. Light the torch under the chimmney and let it continue to burn until the patient perspires very freely. He may remain for 15—20 minutes longer. The temperature inside the wicker work should be between 170° F 200 F. It is less dangerous than Russian bath. Another method is as follows :—the patient after drinking water freely, enters a room with dry air at 110 F to 130 F : when perspiring freely he enters another room at 150° F to 200 F. for a few

minutes, during which time he is rubbed vigorously with bare hands, a cold douche at 60° F. is then given, followed by a cold plunge in water at 60° F. He then lies down until the skin is dry and the pulse normal. Finally, he is rubbed with alcohol, and allowed to rest."

This bath favours evaporation and may be continued for an indefinite period without sensible elevation of internal temperature. The superficial temperature, is, however, raised and the cutaneous circulation greatly increased. The limbs are also increased in volume by the blood drawn from the deep parts, and the general blood pressure falls. The excess of blood drawn through the peripheral vessels supplies a flow of perspiration which may amount to 2 lbs. in a single bath. The skin is macerated and cleansed by the removal of epidermic accumulations and glands contents. The subsequent application of massage and cold affusion cause contraction of blood vessels and rise of blood pressure.

These baths are prescribed for persons of a sluggish, dry, or cold skin, especially for those who complain of want of animal heat and who frequently "take cold." They also relieve some cases of embarrassed venous circulation, especially splanchnic congestion or obstructions with irregular distribution of blood. They are valuable in renal diseases and also useful in rheumatic and gouty disorders.

Turkish bath is also used locally. A bath such as Sheffield—Tallerman apparatus etc, consists essentially of a box or chamber with walls composed of felt or asbestos and arranged so that the contained air can be heated to a required temperature by an oil or gas burner. The affected limb is introduced into the chamber through a window with a closely fitting curtain, and carefully suspended to prevent skin touching the hot walls, thereby avoiding burns. This is generally prescribed to stimulate the process of repair in degenerate tissues, the absorption of swellings and exudations, and the removal of stiffness and contractions.

(IV) *Some other important baths* :—

(a) *Peat and mud baths* :—*Peat baths* are believed to act in virtue of a special stimulation or excitation of the skin, both mechanical and chemical. They are prescribed in torpidity of the skin and the circulation, superficial neuralgias, disorders of common sensation, chronic rheumatic affections, and to promote the absorption of morbid deposits. They are contra indicated in excessive nervous irritability and serious vascular degeneration. As the specific heat of the peat bath is less than that of the water, a comparatively high temperature can be tolerated without undue constitutional disturbance.

Peripheral stimulation is decidedly more active in this bath than in water at the same temperature. There is however, in peat bath a greater sense of pressure than in water baths, which makes it wise in most cases not to cover the upper part of the chest.

Mineral mud baths :—These are of various kinds. In many of them sodium chloride is the chief ingredient while in others are found mineral and organic deposits from thermal spring. Many contain ferrum or sulphur and arsenic in sufficient quantities. Some of these baths are employed with friction while others used locally to diseased parts. They have been recommended in rheumatism, in old syphilis and in contractions, the result of wounds.

(b) *Sand baths* :—In the old procedure of arenation the body, or a portion of it is immersed in sand naturally or artificially heated to from 110° F to 130° F. The result is profuse perspiration. The skin becomes red and crusts of sand are deposited on it. The normal loss of heat is therefore hindered, and the body heat may rise to 3 or 4 degrees. These baths are recommended where a profuse diaphoretic action is required e.g. in some chronic kidney diseases, and locally in joint affections especially in degeneration arthritis.

(c) *Solar baths* :—They need no so special comment. The practice of exposing the body to solar light and heat dates from ancient times, rather this practice of the sun cure is as old as the earth, and the modern sun bath, which is employed with undoubted advantage in many sanitoria, is but a revival of it. The solar radiations are at once analgesic, germicidal, deoxidising and sclerosing. These baths are used in anaemia and malnutrition, asthenia and defective metabolism, especially since they involve exposure of the body to an abundance of fresh air. They are also beneficially applied in the treatment of open wounds, which are stimulated to increased activity. All that is needed is to protect the surface with a layer of sterlized gauze. Often the sun light is so active that it causes considerable irritation, and it is unusual for a wound to be able to stand more than 20 or 30 minutes a day of this treatment. Sun bath is very best treatment for rickets and infantile tuberculosis, especially in its outward so called "surgical" manifestation. In the case of children, the organism the most deteriorated by tuberculosis can be radically transformed under the influence of the sun bath, if carefully administered and combined with the air-bath. Osteoarthritis is also benefitted by it. The blood also shows increase of calcium and phosphorus under the influence of solar light. This bath is also recommended not only in cases of lupus, but in other skin diseases also e.g. eczema, impetigo and acne etc. also infantile paralysis.

The principle consists in always beginning the sun-bath with the lower limbs, which are less sensitive and then proceed by gradu-

pensable adjuvant in the treatment of all sexual disorders. It is employed in these affections both generally and locally in the following forms:—

(a) *Cold sitz or hip bath*:—Exceedingly useful in the treatment of *impotence, diminished sexual desire*, and *spermatorrhoea*. These baths are taken in tubs of wood or zinc, shaped like an arm chair and having a large bed for the patient to rest against, while he sits in the water with his lower limbs resting on the floor outside the tub. The tub should contain water enough to reach the patient's umbilicus so that the water covers only the upper half of the thighs, the genitals, and the lower half of the abdomen. Shoulders, arms and legs are covered with blankets in order to protect the patient from cold. Bath temperature should be 50° F to 60° F. Thermal duration of the baths 2—5 minutes according to the stage of the disease and the general condition of the patient. One bath at night before retiring will be sufficient. In bad cases, two baths with an interval of 4 hours will be sufficient and the duration may be extended to 8 minutes. The mode of action of these baths depends upon reflex stimulation of the pelvic vessels. A direct tonic and aphrodisiac effected is exerted upon the genital organs. After each bath the pelvic vessels become contracted and in course of time they resume their normal calibre and thus prevent excessive flow of blood to the generative organs. The bowels are also affected by the bath and constipation removed. After a few days treatment by this bath signs of improvement cannot fail to manifest themselves. *The erections last longer and come up to a normal standard, the emissions become less frequent and all sorts of irritation subsides.*

(b) *Cold douche*:—Cold water dashed against the perineum or scrotum and the lumbar region is a favourite remedy with some practitioners for *Nocturnal emissions*. Niemeyer reports cases of prostatic troubles, varicocele, atonic impotence in the male etc, to have been cured by cold applications to the perineum. He has seen advancing enlargements of the spermatic veins becoming stationary; long, relaxed and pendulous, scrotum firm and smaller and the mental condition of the patient sharing in the improvement. Best employed in the form of spray so arranged that the showers are directed from below upwards—*Perineal ascending Spray*. Patient is seated on a stool with a large central opening through which the showers are applied to the perineum. The temperature of the water should be low.

A simpler method of applying cold to the perineum is that the patient is seated on the edge of the bathtub and by means of a rubber pipe with a suitable nozzle, direct the stream of water to the perineum and genital organs. These perineal baths are to be taken at bed time.

ated stages, increasing the exposure a few minutes, each day, first the feet, then legs, abdomen, and the chest—the head remaining covered by a handkerchief, or better still by a white cotton sun-hat. The rate of progression must be slower as the trunk is reached. After a lapse of time varying with each patient, the power of the sun, the time of the year, etc; the body becomes pigmented and can safely remain in the sun several hours a day.

An essential precaution is to avoid the sun bath during the midday hours, especially at the lower attitudes where the over-heated atmosphere is weakening and causes congestion, undoing the good effects of the solar radiation. During hot months, therefore, it is in the early hours of the morning that the sun bath should be taken.

(d) *Radiant heat baths*:—These have electric incandescent lamps as their heating agents. A bath consists of a cabinet containing a number of lamps, which may have various coloured globes, so that by absorbing rays corresponding to certain portions of the spectrum the quality of the light may be varied. They may be used for the whole body or for individual limbs. These are chiefly employed to promote the absorption of chronic inflammatory exudates, and in chronic arthritis, adhesion, neuralgia lumbago and sciatica; also used to aid elimination by determining diaphoresis in general toxic conditions e.g. gout, Bright's disease and obesity.

(e) *Whirpool baths*:—This bath has been recently introduced in orthopaedic centres. A rapid current of water at 110 F to 120 F is driven round a vessel in which the patient or the limb is placed. Compressed air or oxygen may be liberated into this firm multitudinous apertures, and thus while the limb absorbs heat and thereby rendered supple and lax, a continuous gentle massage is also occurring. The process is pleasant and soothing and the pain is relieved. Subsequent frictional massage is thereby facilitated and its results improved, although the time of application may be much diminished. In cases of nerve lesion, take care not to raise the water to too high a temperature, or the patient may be scalded without knowing it.

(f) *Mouth and throat bath*:—A mouth and throat bath is often more efficacious than the gargle. Gently moving the solution about the throat by muscular action, and holding it against the affected surfaces, bathes the parts and permits of longer contact by the solution than does the violent straining, gagging and spitting method usually employed in gargling. There is thus less subsequent congestion and irritation of the delicate membranes.

Some more elaborate description of baths in some important diseases:—

(1) *Anaemia and chlorosis*:—The application of douches and affusions to the skin, at first warm and then the temperature gradually reduced or cold sprinkling of the surface, and specially of the spine, following warm affusions, and then brisk friction, is a great stimulant to nutrition and circulation and a calmative of the usually irritable nervous system. Such applications, combined with gentle massage, are of special value in cases associated with insomnia. Ferrario advocates hot baths as valuable adjuncts to the iron therapy in chlorosis. They are best given as hot air baths lasting from 1 to 1½ hour. By this means the increase of haemoglobin and eventually of the number of red cells is promoted, this occuring more rapidly than with iron alone.

(2) *Cellulitis*:—To prevent extension of inflammatory phenomena, warm and moist fomentation or poultice may be applied. Freely incise if suppuration is present. After the bleeding caused by incision has ceased, the limb may be daily immersed in a warm bath for some hours so as to dilute the toxins and render them innocuous. The bath should not be continued for more than 3 or 4 hours at a time, for there is fear of tissue becoming sodden. Sterilized salt solution (105°-110° F) or weak solution of eusol or iodine may be used.

(3) *Constipation*:—Thermal and sub-thermal baths are used. The massive sedation or gently stimulating action produced on the skin surface appears to be reflected on the mucuous membrane. They are of much benefit in habitual constipation where there is w nt of tone in the whole alimentary canal. Alkaline baths may be employed.

(4) *Exophthalmic Goitre*:—Nanheim baths have been found of decided benefit in certain cases. They soothe and strengthen the heart. Sandow's tablets may be used instead. Nothnagal advises tepid half baths, irrigations, packings, and cold spinal bag. Jaccond recommends tepid or warm douches daily for half a minute. After a time temperature may be reduced until at last they may be given quite cold, but he very properly warns against beginning with cold douches, as in these nervous patients they often aggravate the cardiac excitement.

(5) *Gastralgia*:—In these cases, sea bathing, if it can be borne, is likely to be of more permanent use than drugs; or judicious use of cold compresses or douches, together with massage, or constant current application is more efficacious.

(6) *Generative diseases*:—Baths in the shape of hot or cold water are often very useful in sexual weakness and impotence. The present day physicians look upon cold water as a valuable and indis-

Some authorities speak highly of cold applications along the spine. This is easily done by applying the hose directly to the nape of the neck and permitting the water to flow down over the vertebral column. This is called *running irrigation of the back*—the back of the patient nibbed throughout the entire process. Douches applied to the hypogastrium and the inner surface of the thighs are also useful in conditions of sexual debility.

The action of the douches consists in a combination of the thermic and mechanical stimulation in which the latter can never be excluded, since the water is always under some pressure. The degree of stimulation may, to a certain extent be modified by regulating temperature and pressure.

(c) *Sponge bath* :—Recommended by Howe etc., especially in cases of *Spermatorrhoea*. In debilitated persons, sponge bath should be prescribed with caution, as the patient feels chilly and uncomfortable after the bath. At first, bath should have a temperature of 60°F and should be of three minutes duration. Subsequently the temperature may be decreased and the duration increased. Sponge baths are best given in the morning immediately after getting out of bed. The patient sits at the side of the tub and after dipping the sponge in cold water, rubs it rapidly over the face and neck drenching the parts thoroughly 4 or 5 times. Then the arms from shoulders down receive the same application. When the arms are finished the patient should get into the bath tub and while standing up, applies the sponge to every part of the lower extremities. The next step is to sit down in the water and thoroughly sponge surface of the chest, abdomen and spinal column. By pressing the wet sponge on the back of the neck, the whole back is reached by water. Three or four repetitions of this process will be sufficient to complete the bath. After the patient leaves the bath, he should be rubbed with a dry coarse towel until the integument is dry and red.

(7) *Gout* :—Hot water internally is very beneficial. In combining the regular application of hot baths of 15—30 minutes duration, with the ingestion of hot water, as is the practice at most thermal stations, a powerful appeal is made to another eliminating organ viz. the skin ; and a further step is taken in carrying out the indication for evacuant treatment. In many cases no form of thermal bath is admissible.

(8) *Headaches* :—In headaches, chiefly neurasthenic, massage to the head will sometimes give great relief to such cases, and a course of hydrotherapy is very often of great value. A sponge bath is given in the morning (the patient lying on a blanket) after the patient has taken a small cup of cocoa and rest for twenty minutes.

(9) *Heart affections*:—Wherever indications are presented of existing heart affection of any kind, much care is required in the use of baths, both as regards temperature and duration. In structural heart disease, the heat of the bath should seldom equal to that of the blood and never exceed it. In such cases, bath treatment is essentially subthermal (80°F to 98°F) and can be effectually carried out by more than one procedure. One of the best is the *Subthermal douche at low pressure*, accompanied by skilled superficial massage. Immersion baths at a temperature, whether plain or muriated or Nanhiem or Schot baths have essentially the same effects, allowing for difference of posture. All baths that give the patient the sensation of heat must be avoided. During the bath the pulse should become stronger, and slower, and breathing deeper. If at any time it begins to accelerate, the breathing becomes embarrassed, or the facial colour changes, the bath should be discontinued. No hot packs, close dressing rooms, or the slightest subsequent fatigue are permissible.

(10) *Heat stroke*:—The patient should be quickly removed to the coolest place, usually a shady tree—all clothes taken off, and placed on a charpai, and the body should be rubbed all over with pieces of ice. Cold sponging is at the same time carried on, or a douche given with a watering can. If available, give a large enema of iced, coldwater.

In case no ice can be found, a sheet should be wrung out in the coldest water and the patient should be wrapped in this allowing the water to drip from a can all over the body.

When no cold water is available, add a pound of salt to a bucket of water, the juice of several limes, and a quantity of vinegar, or a little Eaudecologne, and sponge the patient with this mixture. If available, ammonia nitrate, 8 ounces dissolved in a quart of water, is a good mixture.

Stop the treatment (there being danger of collapse) when the temperature in the rectum falls to about 101°F. When this is done treat the patient with suitable drugs.

(11) *High blood pressure*:—Hot baths, Turkish baths, electric light baths are employed as they dilate the cutaneous vessels. Side by side with this internal treatment should be pushed on.

(12) *Hyperpyrexia*:—Generally cold bath, wet pack, cold sponge and ice bags are employed (see full description of the respective baths in connection with this disease).

(13) *Hysteria*:—Considerable success has been attended with this treatment. The use of prolonged hot baths, with some aromatic plants infused in the bath e.g. valerian and the blossom of the lime tree, has proved of great service in allaying nervous excitement of

these patients. The patient should remain in the bath of uniform temperature for about an hour or two at a time. The inhalation of the odorous emanations from these aromatic substances is believed to increase the soothing effect of the long immersion. Spinal douches have also been found of great service. They exert a soothing, a distinctly bracing and tonic effect on the debilitated nervous system. The douches are applied as spray and are given at a temperature of 80-85°F, and never cold in the beginning. After a time, alternating douches, warm and cold by turn (Scottish douche) is given, but it is necessary to note carefully the effect on the patient, so as never to give rise to too great excitement. Avoid the patients' head when giving douche which should last not more than half a minute.

(14) *Leprosy*—Bathing in the sea is useful, where this is impossible, mineral bath at a tempetature from 40—50°F must be taken three or four times a day.

(15) *Nervous disorders*:—In cases of *spinal neurasthenia* and in the early stages of *Tabes* and other forms of *spinal paralysis*, especially, in syphilitic subjects, spinal douches, subthermal and peat baths are commonly employed. In *spastic paraplegia* in addition to the above gaseous brine baths of Nauheim or sulphur baths are employed. In *neuritis*, some recommend "rapidly alternating applications" to the limbs of very hot or very cold water. A large sponge or soft towel is dipped first in very hot water, and another in very cold water, and one is made to follow the other rapidly up and down the limb. This makes an agreeable and useful method of local sedation or counter-irritation if used properly. In *Neuralgias* hot baths are of value, of which indifferent thermal baths are generally employed. In other cases, and especially those caused by metallic poisons the sulphur springs prove most useful. In *sciatica*, mud baths and hot baths, Scotch douche, have been found most useful and their value is increased if they are applied with some kind of massage.

(16) *Phthisis*:—Cold douches of a short duration have an excellent general invigorating effect on those who can support them, and who react vigorously to them, especially when they are commenced during the hot season, and they undoubtedly tend to strength the skin, and to remove the tendency to catch cold from the slightest exposure which is troublesome to these patients. But even those who are quite unable to support the cold douche, may derive much benefit from cold or tepid or general sponging of the skin, and it is often an advantage to add a little alcohol or Eaudecologne or toilet vinegar to the water used. Only a portion of the body should be uncovered and sponged at a time. But the whole body may with advantage once a day, be rapidly sponged over with cold water

provided this is done in a *warm room*. After the application of cold or tepid sponging, the patient should be well rubbed with a warm dry towel.

(17) *Pneumonia (Lobar)*:—*Cold sponging* is much safer than cold bath. The latter should be employed with great care and is contraindicated in great debility, extent of lung involved, rapidity of respiration, old age, and alcoholic habit. Its application in such cases may be attended by shock, collapse and return of rigors. On the other hand cold bath is very beneficial in advancing cyanosis, as it causes deep inspiration and the refilling of lung. *Ice-cradle* is safer than cold bath. Some advocate the use of a water-bed through which a stream of cold water is kept constantly flowing. *Ice-bag* is generally applied to the affected side and does not require frequent renewal as cold compresses do. This ice-bag should be removed (especially in children) if the temperature falls below 100° F, and re-applied if it rises above 102 F. This bag should not be applied over pericardial region as it is depressent to the heart. The local application of ice to the chest or to the spine is very beneficial in bringing down the temperature of the disease. In *Broncho-Pneumonia*, all that is required is sponging with tepid or cold water. In exceptional cases, immersion of the child for one to three minutes in a bath of 60—70° F may be allowed.

(18) *Rheumatism (chronic)*: —One of the most popular and satisfactory treatment of this disease is by hot air e.g. Turkish bath or in the form of superheated air as given in Tallerman method, or by radiant heat or scotch douche. This treatment becomes more effective if it is combined with massage and passive movements and electricity. Sulphur and alkaline baths are also much beneficial. Pine baths, various mud baths, are very hot baths and are rarely now used unless in exceptional cases. The temperature of the bath is 95° F to 102° F, and about 30 consecutive baths are usually given in average cases and then rest is taken. In obstinate cases, another fresh course is taken after a few months. The duration of the bath is about half an hour but it can be increased to one hour towards the end of the course. The patient, after a bath, should be wrapped in flannel dressing gown, and allowed to rest on a reclining-couch for about an hour. *Rheumatoid or Osteo-arthritis are treated similarly.*

N.B.—Tallerman Method is as follows:—The limb is placed in a specially made copper chamber made to fit the limb, and the temperature in the interior is gradually increased upto 250° F to 300° F. Each application is given for about 12 minutes. It gives an anoydne effect and permanent benefit is reported in some cases.

(19) *Shock*:—Hot air baths are very beneficial in this condition. It prevents and counteracts shock. The importance of keeping a patient warm during a lengthy operation is emphasized over and over again and to this end operation rooms are now maintained at a temperature of 70° F to 80° F and the patient is carefully clothed. To combat the shock which follows operations or serious injuries e.g. burns etc, especially in children, when the patient's temperature often falls as low as 95° F, it is very important to surround the body with air at a higher temperature and this can be effected by covering the patient with a cradle over which a blanket is placed (the head remains uncovered) and within which is placed an electric lamp of 50 or 100 candle power in such a way that it does not touch patient's limb.

(20) *Senile atrophy*:—In atrophic changes and in commencing fibroid degeneration, regulated thermal applications are of benefit by stimulating and equalising the arterial circulation and by bringing blood supply to ill nourished parts. Subthermal warmth or moisture modifies the tissues and soothes and stimulates the nervous centers. For the old, high temperatures should only be applied.

(21) *Specific cachexias*:—Most or all cachexias, specific or otherwise, are more or less amenable to a properly devised health-resort treatment, with appropriate water-baths etc. Under improved conditions of nutrition, the specific cause often becomes less operative for longer or shorter periods, and it may be even wholly or partially eliminated.

(22) *Typhoid Fever*:—*Cold baths* are generally used if the temperature keeps above 104° F, and the patient's general condition seems unfavourably affected thereby. The use of cold baths, as a routine method of treatment is not safe and should be limited to selective cases. When the temperature rises above 102° 5° F, a bath at 70° F is given every third hour. The patient remains in the tub for 15 to 20 minutes, then taken out, wrapped in a dry sheet, and covered with a light blanket. During the bath, the limbs and the trunk are rubbed thoroughly with a towel. It is well to give the first two baths at 70° F to 80° F and let this temperature remain raised if the bath is not taken well at 70° F. Food is usually given, even a stimulant, after the bath. The routine method of cold bathing when applied to highly sensitive, nervous patients, is often times serious and fatal. Generally cold bath should be used in those cases of hyperpyrexia for which less drastic methods are useless. If, however, it is settled to give cold baths, other measures than the cold bath may be used. The following is a good procedure:—The patient can be enveloped in a cold wet sheet for about two minutes, then rubbed over with dry towels: and when there are two beds side by side this is easily carried out. Or the surface of the body may be rapidly cooled by quickly and repeatedly passing over it a large smooth piece of ice

enveloped in a thin flannel, or a lare sponge wrung out in ice cold water, the patient being turned over his side while it is being applied to the back, when it should pass several times along the spine. *Icebag*, also, may be applied to the back of the neck and another to the spine. *Ice cradle*, too, may be very advantageously applied for continuous applications. In less severe cases, *sponging with tepid water* is usually all that is required. The *Cold Pack* is seldom used if the bath is available. The *contraindications to this bath* are intestinal haemorrhage, peritonitis, severe abdominal pain and great prostation and phlebitis. Children and old are less suitable subjects than strong and younger adults. The chief action of this bath in this trouble is its (1) tonic effects on the circulatory and nervous system (2) Restlessness and delirium are diminished and sleep encouraged. (3) the rate of heart beat is decreased and its power increased and the B. Prises (4) Reduction of temperature and a free excretion of toxins by the kidneys. (5) liability to bed sores is diminished, also initial bronchitis. (6) the complications and mortality becomes considerably reduced.

The *Brand method* of bathing in this disease is as follows: -The cold bath (65°—70° F) with friction through sheets, and stimulants, if necessary whenever the temperature is 102° 5° F or higher, is employed. Water is poured over the head to lessen shock, on entering the bath. The patient is taken out in about 20 minutes, rapped in dry sheet, and covered with a light blanket.

(23) *Antiseptic baths in general and cutaneous diseases*:—The following drugs are generally used in such baths:

(1) Potash Permanganas 5 to 6 grams. (adult dose),
" " 2½ to 3 " (child dose),
(2) Hydrogen Peroxide neutralized with Soda Carb,
(3) Copper sulph }
(4) Zinc chloride } dose 15—50 grams. per bath,
(5) Ferri sulph and Sublimate 5—10 " (adult dose)
" " " " 1—2 " (child dose).

The temperature of these baths is between 89.6° F to 93.2 F, and these are generally applied for from 15-20 minutes. These are particularly indicated at an early state of general disease, more especially in eruptive fevers. In *Varicella*, a Pot. Permanganas bath is very useful in all stages of the disease, and should be continued until the epidermis is restored to normal condition. *Scarlet fever and Rubella* are treated just like varicella. In *Typhoid*, these baths may prevent the occurrence of cutaneous complications due to pyogenic and other micro-organisms. In *Erysipelas* especially of the migratory form, these baths are beneficial. In *skin diseases*,

antiseptic baths are employed both in prophylactic and curative treatment. In *Pyodermia*, baths containing Pot. Permanganas, copper or zinc sulph or sublimate have a remarkable effect. In *Eczema*, these baths are most suited for chronic and pruriginous forms especially in cases of secondary infection due to pyogenic micro-organisms. They prevent pyodermia in *Psoriasis*, and produce relief and finally cure exfoliative dermatitis, accompanied by pruritis and insomnia etc. In *Burns* of a superficial and extensive character Pot. permanganas baths are useful. Local baths containing 5% of calcii chloride are advised in *frost bite*.

Baths of Infants:—Dr. A. Jacobi teaches that while during the early days of an infant a cold or even cool bath should not be given yet after a few months and by carefuly graduating down the temperature of the water, a cool or cold bath can, and should be used for infants especially during the hot season. He is of opinion that cold bathing promotes a very strong and healthy resistance to disease, especially the enervating diseases of hot weather.

Scientific bathing:—Bathing affects nervous and circulatory systems of the skin, with relative withdrawal of blood from internal organs. After a bath this process gradually becomes reversed. This assists the assimilation of food, causes the ingestion of more food, and increases the body weight when regularly repeated over a long period of time. Cold baths, with active exercise cause pheripheral vasomotor constriction followed by a gradual dilation. Exercise has a similiar, but localised effect. Baths are of most benefit in the infectious disease for reducing temperature and overcoming nervous symptoms. They are also indicated for all chronic inflammatory changes, circulatory disturbances, venous stasis, etc.

Rules for Bathing.

(1) Before baths of any kind are employed *an examintion of the Cradio-vascular System*, is essential regarding its structural and functional condition and the effect on this system should be carefully watched throughout the treatment.

(2) *Age and Sex*:—Avoid extreme temperatures in old and in children. Baths at or near the point of thermal indifference are well borne in the old and are often very beneficial. The same applies to females at the climatric epoch. No mineral baths should be used during the periods.

(3) *Effect*:—The effect of every bath is either sedative or stimulant. The alternative will often depend on a very narrow range of temperature or duration, or even on the condition of the patient as effected by the time of the day, the taking of rest, food etc. Cold

baths should never be taken when the body is fatigued even during the summer. A warm or hot bath will always relieve fatigue, or muscular or nervous irritability and restlessness. Baths of any kind should not be taken with two hours after finishing a meal, and a meal should not be taken within an hour after a bath. In the latter case, it takes an hour atleast for the complete reaction to take place and the circulation to become evenly distributed again. Bathing too soon after eating interferes with digestion.

(4) The *duration* of thermal baths and the length of the course must be regulated with care. They must never be so prolonged as to cause marked or persistent debility.

(5) As mineral baths increase congestion or inflammatory reaction in the affected tissues they must *never be employed in febrile and inflammatory states*. The *primoe vioe* must be opened and visceral congestion and other acute derangements removed by preliminary treatment wherever it is found necessary.

(6) A certain *recrudescence* of *symptoms* in the affected parts is to be looked for as the natural effect of a spa treatment. It is a favourable sign within certain limits. The slow chronic action is replaced by a more acute phase of disturbance. When this presently subsides under the continuance of treatment, a healthier action follows. If the recrudescence of symptoms should be early or severe the treatment must be modified or intermitted, and the baths given less often or somewhat cooler (less stimulating). The reaction marked by circulatory and nervous debility, when that follows too prolonged or over stimulating a course of baths should be carefully avoided.

(7) The *amount* of *physical exercise* permitted during the course of baths should be regulated for individual case. Avoid every exertion after a bath in all cases of debility. Even dressing and the use of stairs also avoided. The sedative effects of baths in circulatory affections is frequently neutralised by subsequent fatigue. The patient should be comfortably wrapped, dried and rest in a cool dressing room. Don't use hot pack if a sedative effect is required.

(8) *The after treatment*, following immediately upon a course of baths, requires some consideration. In some, complete rest is necessary while in others some bracing is recommened. A week or two spent in some exhilarating climate among the hill or at the seaside, with pleasurable reactions, but without over excitement or fatigue should be prescribed in all cases in which a course of treatment has been taken for serious organic or functional malady.

A SURVEY OF 52 CASES OF CHOLERA.*

BY

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Below are noted a few facts observed in 52 cholera cases in the epidemic of 1928, locally. They are of all ages and mainly from Hindu community. Though these figures are too small to draw conclusions yet they give an idea of the conclusions given below.

Etiology. Table 1 gives an idea of sex incidence as compared with that of Rogers per cent and also the mortality and recovery percentages.

Table I.

Sex.	Infected. Total.	Infected. Percent.	Recovered. Total.	Recovered. Percent.	Deaths. Total.	Deaths. Percent.	Remarks.
Females.	33	63·5	23	71·9	9	28·1	Result of 1F. not known.
Males.	19	36·5	15	83·3	3	16·7	Result of 1M. not known.
			According to Rogers.				
Females.		14·1		39·7		60·3	
Males.		85·1		39·7		60·3	

From the above table it is clear that (1) as regards the incidence of disease in the sexes as compared with that of Rogers it is in the inverse proportion. (2) Recoveries in both mine and Rogers' as between sexes are almost equal; and some are almost double those of Rogers'. (3) Deaths as between sexes in mine are, among the females nearly $1\frac{1}{3}$ times more than those of males and those of Roger's equal and as between my figures and Rogers', Rogers' are almost double of those of mine.

The figures of Rogers' refer to a period between 1895 and 1905 when saline and essential oil treatment was not conceived of, and to a province where more of Gosha prevails than in Andhra. His figures were taken from hospital statistics in a province like Bengal and at

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a period as early as 1905 or earlier when Gosha was more prevalent. I think the hospital figures especially of the fair sex do not properly represent the proper incidence of disease in India. In support of this view I can remind my readers of how the Corporation Health authorities of Madras as late as in 1928 epidemic, at a time and in a place where the people were more accustomed to hospital treatment and where less Gosha was prevalent, complained that they were not able to trace cholera infections properly especially in the female sex. So the inference can be that under the modified conditions of life my figures are justifiable and give a more correct idea of the disease ratio in the sexes and mortality.

Table II.

Kind of Treatment.	Total infected treated by each kind.	Not collapsed.				Collapsed.				Remarks,
		Recovered.		Died.		Recovered.		Died.		
		Total.	Percent.	Total	Percent.	Total.	Percent.	Total.	Percent.	
(1) Routine + injections.	33	29	100	...	...	...	...	2	100	Results of 2 cases not known.
(2) Routine + injections + Saline	19	...	...	...	...	8	44·5	10	55·5	...
(1) According to Tomb		...	92·7		7·3	...	53·3	...	47·7	..
(2) do		...	...	...	...	...	52·9	...	47·7	...

Table III.

Total No. of cases infected.	Total No. died.	Percentage of deaths.	Percentage of death according to Tomb.
50	12	24	30

From Tables II and III we find that my figures of mortality more closely correspond to those of Tomb which are of recent origin.

Age:—39 patients or 75% are 30 or below 30 years of age. According to Rogers 60·9·/. are 30 or below 30 years of age.

Status:—Out of 50 cases recorded properly 27 or 54·/. are poor and 23 or 46 ·/. rich.

Table IV.

Class of Patient.	Total No.	No. infected in each class.	Percentage of infected in each class.	No. died in each class.	Percentage of Mortality.
Rich.	50	23	46	7	30·4
Poor.		27	54	5	18·5

From Table IV it is clear that the infection percentage is almost equal in rich and poor but the mortality in rich is nearly one-third of infected and in poor is nearly one-fifth or that of rich is $\frac{2}{3}$ more than that of poor due to the hard life and consequent disease resisting capacity of the poor.

SYMPTOMS AND SIGNS.

Clinically and from the treatment point of view, the course of disease is divisible into 3 stages excluding the stage of reaction. 1. preliminary diarrhoeaic stage. (2) pre-collapse stage (3) collapse stage.

1. *Preliminary Stage*:—Sudden onset of profuse painless diarrhoeaic stools rapidly becoming quite free from bile and feacal matter : copious vomiting of watery nature also present.

2. *Pre-collapse Stage* :—Motions and vomitings continue ' prostration ; scanty ; urine ; low tension ; feeble pulse, sometimes rapid ; vomitings are of white or colourless fluid. Motions in majority are white floculant more than bile coloured. MacNamra properly observes that 'premonitory diarrhoea is an exception rather than the rule in India. More cases are seen first in this stage than the above one.'

3. *Collapse stage* :—The pre-collapse stage gradually, more often abruptly, is passed on into stage of collapse, attended with very thready or almost no pulse. If thready, very collapsible, extreme prostration, cramps in limbs ; excessive thirst ; cold clamy condition of whole body, restlessness. In one case the cramps were very excruciating ; they were relieved only by saline administration. From the above reading it is clear that earlier a case is seen and treated, the better are the results as also shown in Table II and Table V.

Thus in a properly recorded number of 39 cases where the average time between the time of onset of disease and the first seeing of the patient, is 14. 3 hours, 8 cases are seen in first stage with an average time interval of 8 hours and maximum of 24 hours and minimum of 2 hours ; all recovered. 11 cases in second stage or pre-collapse stage, with an average time interval of 15·6 hours with a minimum of 4 hours and a maximum of 48 hours, all recovered, and 20 cases of

the collapse stage with an average time interval of 10. 1 hrs. with a minimum of 6 hours and a maximum of 48 hours out of which 7 died.

Table V.

Stage of Disease.	No. of cases seen in each stage.	Maximum time interval noted.	Minimum time interval.	Average time interval.	No. recovered.	No. died.	Per centage of Mortality	Percentage Mortality as shown by Tomb.
1st Stage.	8	24	2	8	8	...	...	7·3
2nd Stage.	11	48	4	15·6	11	...	...	
3rd Stage.	20	48	6	16·1	13	7	35	53·3

In a good number of cases burning pain in the upper part of stomach and throat are complained of sometimes accompanied by tenderness, especially after the intensive treatment with permanaganate.

In this connection Rogers says "abdominal pain is referred to by old writers'.....The pains are partly due to cramps of abdominal wall: burning sensation may also be very severe and if persistent and specially if accompanied by haemorragic stools is of serious prognostic import. It may be present at very early stages.....and be associated with anxious expresion of the countenance.'

In some cases especially if the collapse stage so allowed to go unchecked for want of proper medical help in time, dysponea develops which has proved to be of very bad prognostic value. Thus in six cases out of which two are not included in this survey, all passed on to the stage of collapse when first seen, all developed dysponea at varying times after the onset and died in spite of treatment, though temporarily improved.

In 13 cases of the 44 cases noted in 52 cases under survey in all stages, diarrhoeas and vomiting automatically stopped without any treatment, at varying intervals after onset of disease. Thus, in first stage 4 cases with average time interval of 9. 5 hours after the attack, 3 of second stage with average time interval of 14·6 hours and 6 cases of 3rd stage with an average time interval of 18 hours.

Supression of urine and uraemia:—In 11 or 21.2 percent of cases there was suppression of urine for varying periods. In 6 or 54·51 of them saline was indicated. Out of the 11 2 or 20 per cent died. Result of one not known. 8 living.

In one case there was deep coma good pulse, diarrohea and vomiting stopped; he made an uneventful recovery

with administration of saline. In a patient a girl of ten years pulseless, restless etc. developed delerium and died in spite of saline treatment. Of the two cases dead in the above 11 cases one developed dysponea. In a patient of 50 years in second stage even after diarrhoea

Table VI.

Stage of Disease.	No. of cases in each Stage.	No. of cases recovered automatically in each stage.	Percentage of such cases in each stage.	Average time interval between attack and commencement of treatment
1st Stage.	8	4	50	9·5
2nd Stage.	11	3	27·2	14·6
3rd Stage.	25	6	30	18·0

and vomiting had stopped automatically suppression of urine persisted for about 48 hours without any symptoms of uremia being exhibited, in spite of powerful diuretic treatment.

Diagnosis:—The diagnosis of cholera was made from (1) the clinical condition (2) from the macroscopic examination of stools and vomit (3) from the incidence of epidemic.

Prognosis:—The prognosis was judged from the number and nature of motions and vomiting and general condition of patient.

Treatment:—Treatment was done in 3 stages according to the clinical stage of disease in the patient when first seen and also further development of disease. Treatment was given as a rule after seeing the patient.

Treatment in first stage:—Pot. permanganate 2 grain tablets coated with salol 1 or 2 every ½ hour for an adult till motions are controlled or as many as 20 per day are given. In addition to this, Pro-diarrhoea mixture in 10 m. doses in one ounce of water every half an hour from 4 to 8 doses or more given.

All diet stopped except sips of barley water, glucose water with ½ drm of strong sulphuric acid per pint was given. When frequency of motins was controlled astringents specially bismuth was given in ½ dram doses associated with 10 gr. of salol given every 2 hours and less frequently or more frequently according to necessity. In some cases chlorodyne or opium tincture with dilute sulphuric acid had good results.

Raw lime juice in vomiting nausea and thirst given freely; had good results. No injection as a rule was given.

Out of 52 cases 9 cases or 17·3 percent of cases commenced treatment in this stage out of which 8 or 88·9 per cent of these

recovered out of 9, 2 passed on to the stage of collapse and were treated with saline also. Of these one recovered, one died and she too an old lady of about 80 years with very low vitality.

Table VII.

Description of treatment.	Total no. of infected treated all of which commenced treatmennt 1st Stage.	Percentage of total.	Percentage from the group I.	Total no of deaths for each kind of treatment.	Percentage of death for total infected.	Percentage for group injected.	Percentage of deaths for the particular treatment Sub group.
No. of cases infected.	9	17·3	...	1	1·9	11·1	...
No. treated by routine only.	8	15·4	88·9	...	...	...	...
No. Routine + Injection.	Nil	...	...	...	...	...	...
No. Rontine + Injection + Saline.	1	1·9	9·1	1	1·90	11·1	100

IInd Stage treatment has some routine treatment as first together with stimulants and if necessary injections of ½ to 1 c.c. adrenalin hydrochloride solution 1 in 1000 together with 1/15 gr of atropine sulph. repeated once more if necessary within 24 hours.

Out of 52 cases 17 or 32·7 cases commenced treatment in second stage of disease out of which 1 or 6·9% died. of these 17, 10 or 58·8% required first-stage treatment only 6 or 38·6 were treated with routine as well as injection treatment. 3 cases or 17·6% lead to collapse stage and so required saline treatment as well as routine plus injection treatment. One case was treated with hydrogen peroxide in 1 dr. dose, till decided improvement occured; then routine treatment continued and patient ultimately recovered. In this stage brandy in 2 drm. doses every 2 hours was given to some patients with no bad effects. In a Brahmin girl of 14 years brandy of about 2 oz. given in about 6 hrs. excited a fit of hysteria. With regard to this drug Rogers says 'old writers condemned it.....but some modern authorities considered that small quantities might occasionaly be beneficial. In collapse stages it should certainly be entirely avoided as tending to increase the shock by inducing vaso dilatation and detention of blood to body surface, where it is not wanted, while it is useless to stimulate the heart when there is little or no fluid in the circulation to be acted upon.....In the native patients I scarcely prescribe it."

Hot water bottles and heat to extrimities along with infusion of turpentine applied also.

Treatment of collapse stage. In this stage besides the routine treatment + injections, Rogers saline treatment was also given.

Indications for saline were: condition of pulse, restlessness cyanosis, cramps cold clammy condition of body, excessive thirst, dry tongue, dyspnoeas.

Half an hour prior to saline administration ½ to 1 c.c. adrenalin solution 1 in 1000 was given hypodermically.

Preparation of Saline. Hypertornic saline is prepared by dissolving Parke, Davis, hypertonic saline tablets 4 to a pint or the individual drugs according to formulae of Rogers namely sodium chloride 120 gr., calcium chloride 4 gr. (Pot-chloride not being available was not used). Water from a surface well with unimpeachable surroundings was used as no other kind of water was available. It is soft.

It is kept ready for use after sterilization in sterilized tightly corked bottles, and is not allowed to stand for more them 48 hours.

Mode of administration. The median Basilic vein is selected and administered by the open method no anasthetic being used. The fluid was run down from a funnel and a saline canula by gravitation. The *temperature* of saline solution was regulated by feeling and the condition of the patient. The bottles were placed in hot water and kept there till they acquired sufficient heat *The quantity* required for a patient is measured by the clinical condition of the patient namely return of good pulse and its maintenance, return of heat to extremities, stoppage of thirst and restlessness, and a feeling of relief and restfulness.

The *rate* of administration was also guided by the above symptoms. The same vein was used for further injections whenever necessary. Generally an adult required 3 to 4 pints of fluid for a single administration of 52 cases 24 cases or 46·2% of cases began treatment in collapse stage out of which the result of 2 cases were not known. Out of 22 cases of this group whose results are known 9 or 40·9% of these died, 14 or 63·6% of them had to be given saline. Of these 8 or 57% died.

Out of these 22,4 or 18·1% required only IInd stage treatment out of which 1 or 25% died. Again 4 of this group required only 1st stage treatment out of which 1 or 25% died.

Tables VII, VIII, IX show the number of cases treated in each group by the Routine, routine + injection, and Routine + injection + saline, their percentages, the mortality in each group and also for each kind of treatment in each particular group together with the percentage mortality in detail respectively.

Table VIII.

Description of treatment in group II.	Total no. infected and treated for each group (stage).	Percentage of infected as per total infection.	Percentage for the group II (stage).	Total no. of mortality for each kind of treatment.	Percentage of death per total infected.	Percentage for group II (stage) infected.	Percentage of deaths for particular treatment Sub group.
No. of cases infected.	18	34·6	...	1	1·9	5·5	...
By routine treatment.	12	23·1	66·6	...	...	...	...
Routine + Injection.	3	5·8	16·7	...	...	...	...
Routine + Injection + Saline.	3	5·8	16·6	1	1·9	5·5	33·3

Table IX.

Description of treatment in group 3.	Total no infected and treated for each Sub group.	Percentage of infected per total infection.	Percentage of infection for group III (stage).	Total No. of deaths for each kind of treatment.	Percentage of deaths per total infected.	Percentage for group III (stage) infected.	Percentage of deaths for particular treatment Sub group.
No. of cases infected.	25	50·0	...	11	22·0	44·0	Results of two cases Not known. The no. treated in group III are 22.
By routine.	4	8·0	16·0	1	2·0	4·0	25·0
Routine + injection.	4	8·0	16·0	1	2·0	4·0	25.0
Routine + injection + Saline.	15	30·0	60·0	9	18·0	36·0	60·0

Summing up the results of Tables VII, VIII, and IX we get the following results as shown in Table X out of 52 cases treated, the results of 2 are not known. Out of remaining 50, 24 or 48% on the whole required first stage treatment, 7 or 14·0 %. required first stage as well as second stage treatment and 19 or 38% required saline treatment also. The mortality for first group treatment being 4·2 per cent and second group treatment 14· 37% and 3rd group treatment namely including saline 57· 1%. The first group treatment and last namely saline stand favourably with figures of Tomb as shown in last column.

Table X.

Description of Treatment.	No. treated in group (stage) I.	No. treated in group (stage) II.	No. treated in group (stage III)	Total No. treated for each kind of treatment.	Percentage on the whole infected.	Total No. of deaths under each kind of treatment.	Percentage of deaths on the whole total.	Percentage of deaths for particular kind of treatment.	Percentage of deaths according to Rogers	Percentage of deaths according to Tomb.
Routine	8	12	4	24	48·0	1	2·0	4·2	...	72
Routine and Injection.	...	3	4	7	14·0	1	2·0	14·3	...	....
Routine + Injection + Saline.	1	3	15	19	36·0	11	20	57·1	23·3	47·1
Total	...	...	...	50	...	12	24	...	...	..

Conclusions. 1. The incidence of infection in women is nearly twice that of males.

2. The mortality in women are 28% and in males 17%.

3. Mortality percentage in treated cases before collapse is very little namely 4· 2% and after collapse cases nearly 57% which compresses favourably with figure of Tomb namely 47.7%.

4. The total mortality percent is 24 as compared with 30 per cent of Tomb.

5. Infection occurs in all ages from a few months to very old age $\frac{2}{3}$ of total infected being 30 or below 30 years of age.

6. Rich and poor almost equally infected.

7. About $\frac{1}{3}$ of rich infected and $\frac{1}{3}$ of poor infected died.

8. From treatment and (clinical) condition the disease may be divided into 3 stages (1) early stage. (2) pre-collapse stage (3) collapse stage.

9. The earlier a case is seen and treated the lesser the mortality and better the success.

10. In a good number of cases a burning pain in the abdomen is complained of increased on the administration of potassium permanganate.

11. In a good number of cases or nearly ¼ number of all stages the diarrhoea and vomiting automatically stop or a sort of self healing developed.

12. In 11 cases noted suppression of urine occurred; in about half of those saline was indicated.

13. In 9 cases which commenced treatment in first stage only nearly 90 percent recovered; of those only in one case saline was indicated.

14. In 18 cases which commenced treatment in second stage 94·5% recovered; only one or 5·5%. died; ⅓ of them required saline treatment also.

15. In 25 cases which commenced treatment in 3rd stage 15 or 60 percent required saline treatment also. Of the 25, mortality was 9 or 44 per cent.

My thanks are due to Dr. Y. Suryanarayan Rao for giving me all the necessary information of his cases and also for the valuable suggestions he made.

REFERENCES.

1. Rogers' Cholera and its Treatment.
2. Manson's Tropical Diseases.
3. Paper by Tomb on treatment of cholera in the Indian Medical Gazette 1929 May.

AN INVESTIGATION INTO THE CAUSE OF THE RECENT EPIDEMIC OF BERI-BERI AT BURDWAN.*

BY

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Burdwan.

(Continued from page 254, April, 1931.)

A Corrollary:—Knowing as we do that the planets Jupiter and Saturn are but *mitigated* suns that is, suns which owing to their *relatively lesser mass*, have cooled down just a little more than the sun has, but still each a *glowing, seething mass of burning gases and molten metal* and each of magnificent proportions, and placed nearer to the Earth than any other planets of a similar size—would not they be expected to stream electrons into space just as the sun does (of course, less energetically and quantitatively)? and if they do, as consistently with reason they must, would not their periodical proximity to the Earth cause more of such streams of electrons to be received by the earth than when they are farther away?

The only sensible answer would appear to be made in the affirmative.

* Specially contributed to the "Antiseptic."

Let us now consider the relative positions of each of these two planets with respect to the earth as this actually obtained.

Table Showing Relative Positions of Jupiter and Saturn with Respect to the Earth. (Tabulation made in Oct, 1929).

	Was Nearest.	Was farthest away.	Will again be nearest.	Will again be farthest away.
JUPITER	29th October '28	14th May 1929.	3rd Dec. 1929	21st June 1930.
SATURN	19th June, 1929	13th Dec. 1928.	29th June, 1930	25th Dec. 1929.

Note:—By the terms "nearest" and "farthest away" are to be understood *as compared with the other months of the year.*

It will be seen from the above Table that, roughly speaking, while one planet approaches closest to the Earth, the other goes farthest away, and vice versa. What indeed, would happen if both happened to approach the Earth closest at about the same time? Judging from the inference that is to follow a possible answer to the question would seem to stagger imagination.

Can any difference be reasonably expected to arise in the events between the *nearest* and *farthest* positions of either of these planets to the Earth?

Common sense would suggest the answer "Yes."

But difference of what nature?

A. *Receipt of Extra Streams of Electrons.*—Not so marked along the line of gravitational influence as along that of the streams of electrons. In other words, the proximity would effect but little increase in the amount of the gravitational attraction (as compared with the enormous pull exerted by the Moon which, so to speak, almost touches the Earth), but it would cause the Earth to receive many more streams of electrons in the nearest than in the farthest position of either planet.

What Effects are likely to follow from this receipt of extra Streams?—Divers. There will be electrical disturbances of all grades —gross, medium and fine. The *atmosphere* being charged with an extra (an enormous extra) amount of electricity will feel sensibly *oppressive*, and this has *actually* been felt as such by a number of persons (including myself). The electroscope will register the effects as best as it can. But the finest electroscope by far being the human system, such effects will be *felt* and, in some cases, *registered* best by that most complex and delicate apparatus, and *organic disturbances of various kinds will be the result. Disturbances of*

(i) *Digestion.* Thus, the man of weak *digestion* will have his complaint aggravated for no transgression on his part.

(ii) *The Heart—Palpitation.* The man with a *relatively weak heart* and one who suffers from *slight occasional* plunges of *palpitation* will find the working of that organ almost insufferable at times. *It will palpitate at odd times in the most inconvenient manner, the action being, sometimes, positively distressing, and the palpitation will come and go in the most unreasoned manner.*

(iii) *The Nervous System.* Cases of *disorder of the nervous system* fare, perhaps, the worst, and the electrical disturbances would seem to have a predilection for this kindred system. *Both functional and organic* cases show unmistakable evidences of aggravation of their troubles, and the trouble is that the troubles aggravate when there is least reason for their doing so.

(iv) *Mental Equilibrium.* Convalescents, who have been progressing quite satisfactorily both physically and mentally, begin to *fret* and get *uneasy* and otherwise display an *impatience* and a *shortness of temper* altogether foreign to their nature, and all this for no apparent reason. Their physical progress is, at the same time, *retarded* to a very noticeable extent for no obvious reason. In some cases such convalescents have been known definitely to *retrogress.*

(v) *The Cardiovascular System.* Cases of *cardio-vascular disease* fare no better. Their complaints are invariably aggravated. Some of these aggravations are quite *objective*, like *swellings* and *oedemas.* Others are *subjective* in nature, and the patients swear to their troublesome presence. Such are the palpitations and the recurring feelings of *sinking* and sudden *giddiness*—the commonest kinds of disturbance of that system noticed.

(vi) *The Hepatic Functions.* The functions of the *liver* would appear to be profoundly disturbed and the hepatic balance made markedly unstable. *Hepatic dyspepsia* followed, at intervals, by a consecutive *diarrhœa* is a marked feature. *Bile becomes absorbed into the blood and gives rise to all the mischiefs that this is capable of*—Fever, cutaneous lesions, œdemas (very often mistaken for Beri-Beri) headache, neuritis, hæmorrhages of all grades, external and internal, etc. (For fuller information under this head a reference may be made to my monograph, entitled *The Mischief played by bile in the human subject under certain conditions*, published in *the Medical Review of Reviews*, Calcutta, for February 1930.)

(vii) *The Urinary System.* Cases of *renal disease* fare no better. Nephrolithiatics suffer without exception, while *previously occassional* sufferers from renal colic find themselves compelled to receive rather too frequent visits from that most unwelcome visitor. Of *functional* disturbances, a most unreasoned polyuria has been found

to be very common. This has been known in several instances to lead to more or less privation of sleep at night—a most unpleasant experience if repeated night after night.

(viii) *Even healthy men have felt the effects of such Disturbances.* All the above disturbances have actually been observed to occur in *persons not in the very best of health.* Even *healthy men* have found themselves temporarily "upset" (bodily or mentally or both together) at times, and could but designate such "upsets" as the urchin freaks of their otherwise good health—freaks, however, unprecedented before.

In short, *the electrial disturbances exploit any inherent weakness of any part of the organism*, and such weakness if previously *latent* is made unmistakably *patent*, and brought to light with surprising rapidity in some cases. Thus, a gentleman who has had a negligible palpitation of his heart in the past and nothing particular to complain of for the last 15 years or so, and has been performing a rather heavy field work all these years in the full enjoyment of his health, has been known to suffer from a *sudden recurrence* of that very disagreeable experience *precipitated without reason.* Really healthy men, as a rule, feel the effects of such disturbances very much less than those possessing *some weakness of some tissue of the body.* Such obscure or unsuspected weakness is made undoubtedly *manifest* in a large majority of cases, but *mischiefs of a de novo character are rarely initiated.*

B. *Receipt of Extra floods of Ultra-Violet Light.* Needless to say, more ultra-violet light will be received in such positions by the Earth, and such floods of *invisible* light, liberating countless numbers of electrons from the atoms of matter on the Earth's surface, will considerably intensify the electrical disturbances already mentioned.

C. *The Resultant of Action of the Solar-Planetary Emanations.* There remains one other point to consider in this connection, and that is the resultant of action of the solar-planetary emanations.

As the planet approaches the Earth it, for obvious reasons, approaches the sun as well, The Sun is the undisputed monarch of the Solar system both in *mass* and *energy*, and the two planets under consideration—Jupiter and Saturn—are, practically, just similar Suns, only of smaller mass and lesser energy.

Would not this proximity of the planet to the Sun be attended with a brisker bombardment of the former by the solar Emanations? Yes, this *would* happen. The net result, thus, would appear to be that *more electrons and ultra-violet light will be shot towards the planet by the Sun, and the planet will do likewise towards the Sun.* But the Sun's condition being very exceptional both as regards mass

and energy, the planetary bombardment is likely to have little *direct* effect upon the Sun. What probably happens in such a case is as follows:—

(*a*) A certain percentage of the *electrons* and *ultra-violet light* shot by the planet never reaches the Sun, being deflected, long before reaching it by the ever more powerful emanations proceeding from the Sun's surface. These are dissipated in space and become unavailable or perhaps, a fraction of these may reach some distant heavenly body.

(*b*) A certain other percentage may chance to be so deflected as to reach the Earth, and who can say what alteration, if any, will occur in the *quality* of the bombarding emanations thus deflected towards the Earth. *The planetary electrons and ultra-violet light may*, for aught we know, *acquire newer properties as a result of the violent impact with the solar emanations, and reaching the Earth impart these acquisitions to the atmosphere or the surface thereof.* What strange phenomena these ceric energies can give rise to and how precisely they affect that most sensitive of all electroscopes the human body—we do not for a certainty know.

To sum up, then, this aspect of the solar-planetary influence upon the Earth,

(i) *Direct Solar Emanations.* The Sun is *always* shedding floods of electrons and ultra-violet light, a portion only of each of which reaches the Earth, most of the light being absorbed by the upper layers of the atmosphere. Such emanations are extremely active physically, chemically and physiologically.

(ii) *Direct Planetary Emanations.* When either Jupiter or Saturn comes nearest to the Earth, it stands to reason that a very much larger amount of such emanations will be received by the Earth than when that planet was *farthest away*, and Jupiter and Saturn may, for practical purposes (as shown already), be considered as *miniature Suns of diminished energy.*

(iii) *Indirect solar and planetary Emanations. Reflected and deflected Emanations.* Apart from this *direct* bombardment of the Earth by the Sun and the planets, there is yet, an *indirect* bombardment effected by the solar-planetary emanations reaching the Earth on being *reflected* or *deflected.* Of the electronic emanations and the ultra-violet light shot towards these planets by the Sun—— an action which will be particularly marked when these planets approach nearest to the Earth, and so to the sun——a portion may

be deflected (by the activity of the planetary energy) before it reaches the surface of the planet, while a second portion may be reflected on reaching its surface, and a third may get absorbed.

The reflected portion may become——and possibly is—charged with *newer properties after the violent impact*, derived, possibly, from the nature of the planet in question——some unknown quality regarding the nature of which we can make no conjecture——properties absolutely strange and, as yet, undetermined.

It would be more difficult to speak of the deflected portion of the emanations——emanations from the planets as deflected by the sun, and those from the sun as deflected by the planets, and both reaching the Earth. These emanations may or may not acquire newer properties. But it must be remembered all the same that the energy necessary to deflect the emanations—which, themselves, must possess an enormous amount of it——must be something tremendous. Can the deflected emanations, under such circumstances, acquire properties they did not possess originally? It would seem as though they would.

In dealing with the heavenly bodies one little point must always be kept in mind. This is that these bodies are *round* and are swimming *free* in space. This means, that having nothing to rest upon, each portion of their surface is exposed *freely* to space and so to the influences contained therein.

Here I thank the reader for the trouble of accompanying me so far through the immensity of space and viewing the splendour of the stupendous orbs that whirl and whizz noiselessly through it, none ever swerving from its accustomed path, which each has travelled one never knows for how long. "How much longer will they continue to do so"? is a question that makes *Science* hang down her head for a reply. The reader can see by now that this digression has not been entirely outside the topic under consideration, although he might have been tempted to think so when this was proposed.

I shall now place before him the promised statistics of attack and death. Before, however, doing so, I feel it my duty to say a word as to how these figures have been obtained.

Anybody who has ever had the misfortune to try to work out Vital Statistic in India will remember how, at the outset, he has been confronted with that very despairing fact that the record *available* represents *but a fraction of the whole*, and this applies to Birth, Sickness and Death. Without any further prelude, then, I have sadly to assure my readers that *my figures*, likewise, *represent just a fraction of the whole*.

Not all cases of attack were seen and reported by qualified medical men. In fact, very many cases came *first hand* to the "quacks"—those unqualified men who set up a miserable-looking drug-shops of sorts and pose as "doctors"; non-qualified compounders in very many cases and just a few passed compounders—and Burdwan would appear to be a paradise for such. Need I say that such men are not at all competent to make a diagnosis?

A large majority of the people who could afford the expenses placed themselves under the care of the private medical practitioners, and records of such cases are, of course, not available.

The only source, then, that remains possible for an investigation of the kind is the public hospitals, where *poor* men usually, and those of *moderate means*, sometimes, come reluctantly for treatment. The only hospital of the kind that the town of Burdwan can boast of is the Fraser Hospital, and Rai Bahadur Dr. J. N. Mitra, then Civil Surgeon of Burdwan, very kindly permitted me access to the records of the Outpatient's Department on my applying to him in December 1929. The figures representing the *Attack*, thus, are nothing but a record of outdoor attendance at the Fraser Hospital and, as already shown, stand for *a very small moiety of the total number of seizures*; in fact, represent a fraction of the poor men and still less the middle-class men who suffered from the disease.

For the figures of Death I applied to the Municipality of Burdwan, fully under the impression that record of *all cases of official cremation and burial* were to be found in the archives of that august corporation. When, about a couple of months after my application, a reply was kindly vouchsafed, I felt dismayed at the ludicrously low figures quoted therein. Doubting very seriously the accuracy of the figures I again approached the Municipality, when to my horror I was informed that the figures as submitted by that institution represented *only the cases of cremation, no record being maintained of those of burial*! and, yet, I know, and every body in Burdwan knows, that Mahommedans have died in numbers, and that that a Mahommedan village, a couple of miles or even less from the heart of the town, named Goda, has been decimated, practically completely, by the scourge, and all the corpses necessarily burried. I had, thus, no choice but to accept the Municipal figures as kindly supplied which, it must always be remembered, stand *only* for cases of *cremation*, that is Hindu cases only, and even at that an *absolutly low figure*, which anybody, who has lived through the epidemic at Burdwan, would be prepared to swear to. In fact, speaking from personal experience, and as the result of comparing notes with a number of persons who are likely to know best, it would be more reasonable to say that the figure 150, as submitted by the Municipality, *should* more approximate the average figure for a *month* (cremation and burial taken together) than for the *whole year 1929*.

However, the official figures stand at that, and my candid comment on same offered I proceed to lay the figures on the table.

As there are no statistical data for 1928 at my disposal, we can, at best, limit our observations to the events of that unfortunate year, 1929 only.

Table of Vital statistics of Beri-Beri for and Planetary positions during the Year 1929.

Outdoor attendance at the Fraser Hospital.	End of Month.	Municipal figure for cremation only.	Jupiter approximately away from the Earth.	Saturn approximately away from the Earth.
35	January	Nil	6/13	9/12
41	February	1	8/13	7/12
144	March	1	10/13	5/12
132	April	Nil	12/13	3/12
100	May	Nil	Farthest away on 14th May. (12/13+1/13=13/13=1) total distance intervening	1/12
119	June	Nil	10/13	Nearest on 19th June (1/12−1/12=0=closest; no distance intervening)
244	July	1	8/13	3/12
332	August	11	6/13	5/12
235	September	26	4/13	7/12
158	October	33	2/13	9/12
241	November	52	Nearest on 3-12-29 Practically so by end of Nov. (2/13−2/13=0= no distance intervening).	11/12
309	December	25	2/13	Farthest away on 25-12-1929 (11/12+1/12= 1=total distance intervening).
2,090	1930	150	Jupiter takes nearly 6½ months to pass from its nearest.	
	January	49	4/13 position to the Earth	Saturn does the same in nearly 6 months.
	February	14	6/13 to the farthest and	Therefore its motion per month=2/12.
	March	8	8/13vice versa. Therefore	
	April	8	10/13its motion per month	
	May	7	12/13 is equal to 2/13	
	June	10	Jupiter again farthest away from Earth on 21st June 1930.	Saturn again closest to the Earth on 29th June 1930.
	July	Nil		
	August	2		
	September	1		
	October	2		
	November	Nil		
		112		

Although for reasons stated already the figures for sickness and death represent but a small moiety of the totality, yet these are to be accepted with as good a grace as is possible under the circumstances, being the only data of the kind available for the purpose, however inexact and inaccurate they may be. I reserve to myself the option, however, of commenting freely on any figure that would appear to me to be ludicrously remote from probability, for, be it remembered, I have lived through the epidemic here at Burdwan right through, and thus have a general knowledge of all that happened. Thus, while the Municipality can offer no information as to the burial of the dead within its own area, I have seen scores of cases both cremated and buried.

Do the incidence and death figures as quoted above correspond, in any way, with the planetary positions, and so bear out our theory? A careful consideration will show they do, and the proximity of Jupiter to the Earth will be found to have more influence on these events than that of Saturn. And one need not go far in search of the reason of this apparent discrepancy. The ever so much more massive Jupiter is 402·3 million miles nearer to the Earth than Saturn which, withal, is of a smaller magnitude, and the influence of this immense distance is by no means to be ignored.

We will now come down to an actual examination of this planetary influence with a view to see how, if at all, this affects the vital statistical figures, extremely inexact as they are.

The mischief had started in 1928, but as we are not in possession of the figures for that year, we shall content ourselves with the event of the next.

From a glance at the Table of Vital statistics and Planetary positions it would appear that, while Jupiter was *receding* away from the Earth after having been closest to it towards the end of October 1928, 35 cases reported at the Fraser Hospital in January 1929. Saturn at the same time was gradually *approaching* the Earth after having been farthest away on 13th December 1928. Next month, although Jupiter is 2/13 farther away, the attendance at the Hospital goes up to 41, and so on in March to 144, in April to 132, and in May, when Jupiter is farthest away, to 100, Saturn all this while steadily approaching.

If would appear at first sight as though the progressive proximity of Saturn accounted for these heightened figures. In reality, however, this is not so. Many of the cases that occurred in November and December 1928—when Jupiter was closer to the Earth than in January 1929—might not have reported at the Hospital at all, or not until months afterwards when matters looked indeed threatening. Such indeed, is the honest fact which accounts *mainly* for the diver-

gence in the figures for January, February and March—a high jump from 41 in February, when Jupiter was only 8/13 away from the Earth, to 144 in March, when that planet was still farther away, would not be *wholly* accounted for by the closer approach of Saturn. Ve y many cases of incidence in January and February, likewise, did not actually come to hospital until after they had found themselves going from bad to worse; and as Beri-Beri elects to inflict its torments extending over months (and most cases in Burdwan were of this type and very few of the acute Pernicious type), a good many sick people of the poorer classes gave the symptom-syndrome a fair chance of a month or two to clear off, and when, finally, this did not happen, they had recourse to hospital. Hence the apparently anomalous figures for March, April and May. It would, however, be absurd to deny the influence of Saturn altogether. Speaking broadly Saturn by itself had less influence on the epidemic than Jupiter. About mid-may Jupiter was farthest away from the Earth, and from that time on again started approaching it, while about the same time (more correctly a month later) whatever influence Saturn has had in the causation of the epidemic was progressively on the wane, having attained its maximum on 19th June. In other words, the approach of a *manifestly superior* force and the receding away of a ***minor*** one. The result in such a case is expected to be more evident than in the former——the approach of a minor force while the major one was receding away, as this obtained in the January to mid-May period. We thus see that the Hospital figures for June to December, inaccurate as they are, very fairly show this correspondence, while those for death, extremely fractional though they be, show a progressive increase from June onwards. The Municipal figure for December is simply ludicrous, even excluding the cases of burial. It would be more in keeping with facts if at least the units and tens figures had changed places, while the addition of a few more units would certainly not exceed the truth.

That the proximity of the giant mass of Jupiter corresponds closely with the heightened figures is further seen from the Municipal cremation figures for 1930, where it shows a progressive decadence from January onwards in proportion as that orb recedes away from the Earth. Although we do not possess the Hospital attendance figures for the corresponding period, we are in a position to aver that there certainly have been fewer "fresh cases" in 1930 than during any of the last five months of the preceding year.

Now, it may fairly be asked.

"*Why fewer cases since January 1930 than during the period following the previous approach of Jupiter closest to the earth on 29th October 1928*"? A very legitimate question, indeed.

The reply to this is that the first brunt—the 1928 approach of Jupiter to the Earth—made patent a very large number of cases of Beri-Beri of any respectable degree of latency, leaving only such persons alone who had not had it *at all* at the time, or affecting those who *just started having the latency* ever so slightly that the change was put down to a slight indisposition expected to pass off in a few day's time. The 1928-29 sweep was, thus, by far a greater event in the annals of Burdwan than the one following, which, thus, had to deal only with latencies developed subsequent to that period. There is good reason to believe that the swollen hospital and municipal figures for the latter half of 1929 are, to a not inconsiderable extent, contributed to by cases that had occurred sometime during the previous half just as the deaths during the first half of 1930 represent cases attacked *mostly* during the last quarter of the previous year, there having occured very few "fresh cases" during the year, and even those few progressively on the decline from January onwards. In fact, *all* the latent cases of Beri-Beri have been made patent during these two sessions and practically, none left untouched a statement borne out by the non-occurrence of "fresh cases" of Beri-Beri at Burdwan since April 1930, and based on the testimony of qualified medical practitioners of the town.

Readers of a mathematical bent of mind wishing to have the statement reduced in terms of simple arithmetic may have a glance at the following :—

Supposing the influence of Jupiter on the Earth to be unity when it is nearest, and practically nil, that is zero, when farthest away from the Earth, we may proceed as follows :

Jupiter changes from 0 to 1 and vice versa in 6½ months.

Jupiter was farthest away from the Earth on 14th May 1929, and closest to it on 3rd December 1929.

Dividing this period into 13 equal parts, we may roughly calculate the influence of Jupiter on the Earth as follows :

Month of 1929	Jupiter's influence on the Earth maximum influence = 1	Hospital attendance figures.	Cremation figures
End of June	·154	119	nil
,, ,, July	·308	244	1
,, ,, August	·462	332	11
,, ,, September	·616	235	26
,, ,, October	·770	158	33
,, ,, November	·924	241	52
,, ,, December	·784	309	25 (?)

I again emphasise the fact that this is primarily an attempt at explaining the *cause of the epidemic* and not the aetiology of Beri-Beri itself, which is altogether a very different question. If, however, health and time permit, I have a mind to attempt this latter as well.

So far my endeavour has been at a fair representation of facts—facts of sensuous perception and those of inferenee. I can assure my readers that I hate nothing so much myself as unreasoned dogmatism, and trust no honest reader can conscientiously call this essay (in the original sense of the word, meaning an attempt) as anything savouring of the like.

The idea of Planetary influences in the causation of epidemics of certain diseases is, so far as I am aware, not a very current one in Western Medical Science. But theories, after all, are human, and facts divine. Events occur before our eyes. We can, at best find a reason for some : others we cannot explain. The cause of these latter may be too subtle for the grasp of the busy man of the world. But is that any reason why that subtlety may not be apprehended by a less busy and more patient observer, and, thus, the so-far-unexplained groups of phenomena accounted for? Why, the history of the Sciences bears this out in every chapter! And just because that subtlety happens to be of the nature of a novelty is no reason why it should be clapped out of Thoughtful Presence. Ideas are not made current all in a day. Time, honest observation, and careful experiment are essential to the examination of a theory with a view to establishing its validity or otherwise. What looks and sounds very outlandish today, may become a matter of vulgar familiarity within the next couple of years. Witness for example, the history of the iron-clad steam ship from the time when first advertised to cut its way through water to the present day; the all but universal incredulity regarding the capabilities of the primitive locomotive steam engine to the express runners of our day; and last, though not least, the history of the much too familiar motor car! How, again, about the aeroplane? Only two generations back the story of the pilot of today of a whirring flight through the air at a hundred miles an hour, over seas and oceans in face of mutinous elements (like Colonel Lindbergh's from New York to Paris, all by himself), would be listened to with the greatest contempt for the moral of the reciter unless his sanity was very seriously questioned.

The fact is, we have been engrossed too much, thus far, with the grosser and more palpable aspects of nature, expecting these alone to explain *all* our difficulties. That these alone do not *always* explain *all* difficulties to our satisfaction is no less a fact, and we often have

recourse to that time-honoured "Airy's nail" to tide over such difficulties. New ideas are bound to crop up. They are just human intellectual necessities. Beware how you condemn them lightly before you have given them all your attention! The history of medicine itself is but a history of just such *ideas*!

Let such who can undertake the task consider the matter seriously with a view to investigation along similar lines. The potentialities of nature are immense, and men can have but *Glimpses of fragments of truth*.

The more we look into the phenomena of nature, the more convinced we become of the truth of that inductive aphorism of the *Plurality of causes and intermixture of effects*. A normal, intelligent mind is bound to find evidences of this everywhere in nature, ascending progressively from the inanimate to the animate. And since in that body-mind complexity called *Man* nature is conceded to have found her highest expression, it is here that the aphorism finds its greatest latitude of application. It may safely be affirmed that no *human* event is the outcome of any *single* cause. More factors than one *always* participate in the genesis of such phenomena, the recognition whereof is possible *only* for the man of an acute analytical intellect. Diseases and Epidemics, being affairs *human* (I exclude those among planets and animals), come within this category. Malaria, for instance, requires man, the anopheline mosquito and the parasite for its development, while either acting by itself, or even any two factors operating together, would be attended with a negative result. Similar is the case with epidemics, whose modes of origin have already been indicated briefly. More factors than planetary influences (and I have touched *upon* the sanitation of Burdwan already) were very probably concerned in the causation of the recent epidemic of Beri-Beri. I have indicated some, including the most subtle of the lot. Let others interested in the matter come forward and discover the remainder, for the field, though explored is so rich and vast that even the negligent search of a straggling gleaner may be rewarded with a sheaf.

Cases & Comments

ASPHYXIA PALLIDA.

By

DAVID PERERA, L.M.P.

Medical Officer, Poonagalla Group, Bandarawela, Ceylon.

On 1st September 1931 at 8 P.M. I was called in to attend on an Indian lady who was in protracted labour pain. The patient was about 37 years of age and a multipara, this being her 10th baby. Her last child was still-born and was delivered with the aid of instruments. She was apparently in labour for 3 days and the membrane had ruptured early in the morning of September the 1st. I found her in a very exhausted condition with hardly any pain present then. The patient insisted on getting the baby extracted under chloroform as on the previous occasion. I gave her an injection of 0·5cc Pituitrin and a short time after she developed strong pains and delivered a baby girl in a lifeless condition, with a very long cord wrapped round her chest and neck and her head hanging. We released the cord and extracted mucus from the mouth with the aid of a Mucus Extractor and put the baby into a hot water bath and inserted the middle finger into the rectum as advocated by Dame Louise Macelory, and highly recommended by Col. Green Armitage in the '*Indian Medical Gazette*' of January 1930, page 22. Unfortunately I had no Adrenaline Chloride in my bag, however a 1/3rd part of a 0.5 cc. bulb Pituitrin was injected into the biceps, and after a few minutes the baby started to breathe wonderfully in a gasping manner. After another half an hour it commenced to gradually cry and to breathe normally. The baby was kept in the bath for two hours and removed; Eau de Cologne was then applied and the infant was wrapped up in flannel and handed over to the attendants.

After this case we have saved several babies from White Asphyxia by this simple method, with and without injections.

This indicates the uselessness and danger of artificial respiration by which method we have lost many a little life. It is apparently true as the eminent Colonol writes that artificial respiration is only "Piling Pelion on Ossa".

I humbly trust that every obstetrician will give his attention to this safe method of reviving.

SOME ASPECTS OF CEREBRO-SPINAL MENINGITIS SUPPOSED TO BE DUE TO MALARIA.

BY

DR. CHARU CHANDRA, SANYAL,

Jalpaiguri.

Cases of what we call Cerebral Malaria are quite common in this district. It generally attacks children upto the age of five. The percentage of attacks above this age is not very high. It does not spare strong and able bodied men. Death rate is more than seventy five per cent. Nature of attack may be sudden or gradual. This time I shall cite cases of sudden onset only.

PARALYTIC TYPE.

1. A boy aged about fourteen having a history of slight fever for a few days was going to the market. He fell down on the street without any warning and became quite unconscious. He was then taken to the local hospital. Blood was examined but no M. P. found. He was given a strong purgative and injection of quinine gr. 60 in three days with rectal saline. The patient recovered in a week.

2. A gentleman aged 40 about 6' in height and 42" chest, strong built had been to Duars (a part of the district just at the foot of the Himalayas at the border of the Bhutan territory) a few days ago. One day he felt a sudden chill and became unconscious in half an hour. When I saw him on the second day his temperature was 96 F, complete paralysis of legs, hands folded on the chest, neck stiff and conjunctival reflex to touch is lost but light reflex present. Pupil rolled upwards. Pulse could not be counted, resp. 36 per min. Blood was examined and numerous cresents were found. Usual purgative and intramuscular injection of Q. B. H. gr. 20 was given. Next day the temperature got up to 103 F and stiffness slightly diminished, Gr. 10 Q. B. H. was injected intravenously in saline. After four hours the patient suddenly died of heart failure.

3. A lady aged 16 had slight fever for two days which she did not care for at all. On the third day while going to the privy she suddenly fell down unconscious. At first every one thought that it was due to weakness but later on partial paralysis of legs and hands made its appearance. Conjunctival reflex lost although light reflex was present. Stiffness of neck was not marked. One peculiar feature in this case was that the left leg was drawn up which she was constantly moving to and fro. She had a big spleen. Examination of blood could not be made. Usual quinine and alkalies with saline were given but she died in two days.

Note :—Paralytic type is infrequent in children.

CONVULSIVE TYPE.

1. A female child aged 2 had several attacks of malarial fever within a month. One morning she was out of sorts and was kept in bed. The same afternoon all on a sudden she began to have convulsions with twitching of the face, rolling of eyes, and stiffness of neck. Sometimes convulsion of whole body became so much that she looked like a patient of tetanus. Hyoscine hydrobrom and quinine were injected. The patient died in two hours.

2. A male child aged 6 had an attack of fever with chill and within two hours he became unconscious with twitchings of the face and rolling of the eyes. Generalised convulsions soon followed with stiffness of neck. His temperature was 102° F, pulse 140 and resp. 30, during the period of rest. Pulse and resp. could not be counted during convulsions. Knee jerk slightly exaggerated, left leg drawn up and was moving to and fro. Conjunctival reflex was diminished although light reflex was normal. Tongue coated and dry. Sometimes convulsions became so severe that three or four persons were required to control him. Rectal injection of S. S. Mag sulph four ounces was given. It was rejected forthwith. After one hour a second attempt was made. This time he passed copious foul smelling stool. After half an hour gr. 10 each of Chloral Hydrate and Amon Brom. were put into the rectum in two ounces of saline. The patient remained quiet for about two hours and again convulsions set in. Q. B. H. gr. 5 was given intramuscularly. Convulsions increased so much that the pulse could not be felt at the wrist, and remained so for half an hour; in the mean time abdomen was distended tight. ½cc. of Pituitrin was injected. Pulse returned and distension was relieved. But convulsions continued. Finding no other way open gr. 1/200 of Hyoscine Hydrobrom was injected. The patient became quiet.

Treatment went on with S. S. Mag sulph per rectum every four hours alternating with Amon Brom. gr 10 in two ounces of normal saline reaching up to 30 grs. per day. Thus the bowels were kept open to draw out as much fluid as possible, in the mean time keeping him completely under bromides. This experiment gave the desired effect and after two days his consciousness returned. Another injection of quinine grs. 5 was given. Again the patient started convulsions with unconciousness. Quinine was abandoned altogether and the patient was kept under Magsulph and Bromides. He had to be given one injection of Hyoscine Hydrobrom gr. 1/200 and ½ c. c. Pituitrin to control convulsion and pulse respectively. Quinine was given per mouth after he was free from fever and convulsions for four days. The patient made an uneventful recovery.

3. A female child aged three had a fall from her bed in the morning. She became unconscious at once. Later on twitchings of face, rolling of eyes and generalised convulsions followed. The case

was suspected to be one of irritation of brain due to fall. Temperature was 96°F. Ice bag was applied to the head but convulsions did not stop within five hours. Towards afternoon Hyoscine Hydrobrom gr. 1/200 and Quinine gr. 5 were injected without appreciable result. Hyoscine was again injected after two hours. The patient slept within 15 minutes. Next morning Quinine grs. 5 was injected and the patient made an uneventful recovery. After six months, yesterday I was called to see the same patient with fever and convulsions.

CONCLUSION.

The above cases are certainly of cerebral irritation. In very few cases malarial parasites could be found in the finger blood. Malaria was suspected from the history of the patient. These cases are so very prevalent in this district that cases of sudden unconsciousness with or without fever are suspected to be of malarial origin and treated as such. Percentage of mortality with or without quinine from the very beginning was practically the same. Prospects of the latter seemed better. In some cases unconsciousness or convulsions recurred after injection of quinine.

If it is taken for granted that the malarial parasites lodging in the capillaries of the base of the brain are responsible for the above symptoms and living bodies in course of death give out the products of disintegration that is the toxins, then it would be quite natural to expect that random injection of quinine may cause a large amount of toxins to accumulate near the fourth ventricle and thereby bring about failure of heart and respiration. Probably this is the cause of high percentage of mortality even with injection of quinine from the very beginning of the disease. So it is best to dislodge the parasites and then to kill them. All methods of reducing the pressure on the brain may be adopted that is ice bag on head, S. S. Magsulph high up per rectum through a long rubber catheter every four hours until the patient passes out enough fluid. Magsulph has two advantages. Firstly, it causes a large amount of fluid to pass out thus starting the flow of circulation in the capillaries of the base of the brain removing the parasites to the general circulation and secondly it is a good nerve sedative and antispasmodic.

At present I treat such cases as follows with encouraging results.

(1) Ice bag on head.
(2) S. S. Magsulph 4 oz. high up into the rectum every 4 hours.
(3) Chloral hydrate and Amon Bromide per rectum in 2 oz. of saline every 12 hours dosing according to age.
(4) Hyoscine Hydrobrom if convulsions are severe.
(5) Injection of quinine when convulsions have stopped or diminished to prevent a second attack.

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HEALTH OF THE CITY OF MADRAS DURING 1930

Public Health is the foundation upon which rests the happiness of the people and the power of the state. Take a most beautiful kingdom, give it intelligent citizens, prosperous merchants, productive agriculturists, let arts flourish, let the defence be first-rate, but if the population decreases yearly in vigour and stature, or remains stationary, the nation must perish. And therefore the first duty of every statesman is the care of public health.

The health of a city is generally judged by its birth, death and disease rates, and judging from vital statistics or the book-keeping of the Health Department as given in the Annual Report of the Health Officer of the City of Madras for the year 1930, the Health of Madras must be deemed to be far from satisfactory. The birth rate for the year under review was 48.5 as against 43.7 in 1929. Of course this increase may probably be due to the increase in the population of Madras as shown in the Census of 1931. (Birth statistics are generally unreliable, and much more so in Madras where registration of births is still very defective.) The Infantile Mortality for the year 1930 was 243.9 as against 256 in 1929 and the death of infants under one year was 27.4 per cent of the total at all ages during the year, as compared with 26.5 per cent in the previous year. It is also found that the death-rate at the two extreme age periods is higher than at other age periods.

The adult mortality rate was 43·2 as against 42.4 in 1929. The maternal mortality or deaths due to child birth was 328 during 1930 as against 304 in 1929.

Among the principle causes of mortality in the city, we find respiratory diseases contributing the largest quota, 52·56 being reported under this head. Diarrhoea, and Dysentery (3356), Fevers (1961) Nervous diseases (1128), Tuberculosis (1075), enteric fever (126), Malaria (283), Small-pox (188), Measles (16), Kala-azar (32), are among the other causes of death mentioned in their order of frequency. We therefore see that most of the deaths in the City of Madras are due to infection, over-crowding, bad housing, bad water, and poverty. Of this, poverty is the economic factor which probably prevails all the world over. Over-crowding and the other contributory factors are perhaps directly or indirectly under the control of the Health Officer. We will now discuss the various measures that have been taken by the Health Officer with regard to these: –

Coming to over-crowding, though it does not primarily concern the Health Officer it is part of his duty to co-operate with other Heads in the Municipal administration to see that over-crowding is prevented as far as possible in the City of Madras. In George Town and other areas congestion has gone to the supersaturation point. It is unbelievable that any more over-crowding is possible is these areas. To make matters worse we have in Madras a large number of slum areas—nearly 150 in number—which are probably the source of all trouble in Madras. A slum can be compared to a septic ulcer in the human body. If the ulcer is not properly dressed, the infection usually spreads to other parts of the body and causes disease elsewhere. Similarly if the slums are not taken care of, the Health of the City will suffer. We know that efforts are being made by the Municipal authorities for the improvement of these slums. The Corporation and the Government have recently finished a scheme for the housing of the poor in Boghipalayam for nearly 200 people at a cost of nearly Rs. 2,00,000. This would probably be an ideal, but may we ask whether the funds of the Corporation will ever permit them to finish in the near future, their dreams about converting all slums into such ideal tenements? It will probably take a hundred years before these schemes do materialise. May we suggest that in the interests of public health it would be better if the Madras Corporation will, as a temporary measure, relay the roads, provide drains, fit up street lighting and construct flush-out latrines, in all these slums. This probably is what every slum requires at present. The difficulty will probably arise in the case of private owned slums, which are unfortunately the largest in number, but we are sure the Corporation authorities will use diplomacy, if not coercion, in these cases, and in the interests of humanity make these slums better supplied with air,

water, light, and drainage. The Madras Corporation has also instituted the Mambalam extension for the relief of congestion, but may we ask if they have succeeded in their ideal?. We are afraid that the men reaping the benefits of the Mambalam extension are the rich and middle classes, who have shifted from decent houses in the city to the bungalows in Mambalam. Cost of living and communications to and from, Mambalam are not favourable to the man to whom it is really intended. On the other hand there is a tendency, on account of the increased Railway charges for suburban traffic, for the people to come back to Madras. Congestion therefore in its proper sense, can never be relieved by these colossal extension schemes. The next important contributory factor is probably conservancy. It has been often complained and, rightly too perhaps, by the Health Department of the Madras Corporation, that when the question of retrenchment arises, it is the conservancy system that is always the sufferer. May we remind the Councillors and the authorities that the removal and diposal of rubbish, dust, filth, and faecal matter is the most important duty of the Corporation. Where there is filth there are flies and diseases. The water carriage system of sewage disposal is nearing completion and we are glad to say that the Corporation has decided to fit up flush-out latrines in every part of the city, but they have been in one year able to finish only one division. When is this scheme going to be completed?. Would it not be wise for the Corporation to allot a large sum of money for the rapid completion of these schemes? Mechanisation of conservancy removal has been adopted on such a meagre scale that by the time the old rubbish carts are re-placed by the lorries it will be more than a quarter of a century at the present rate of progress. We are for mechanisation, but let it be done systematically and quickly for otherwise there will be trouble. The disposal of the rubbish is a problem which the Health department will have to tackle and we will certainly endorse the Health Officer's warning that it should occupy the minds of every citizen who has interest for public welfare.

The Maternity and child welfare scheme also requires more than a passing mention. We find, that, in spite of the large sums of money spent on this scheme, it has not very materially lowered the maternal and infantile mortality. We are unable to share the Lady Superintendent's optimism that the scheme is making a steady progress. In all maternity work the mother ought to be the prominent figure and attention must be paid to her health during the last weeks of pregnancy. Proper ante-natal work must be done. The preventive aspect of diseases must be more carefully attented to than the curative, which latter we should leave to the hospitals and to the large body of medical men to tackle. It is here perhaps that the Madras maternity and child welfare scheme is

erring. The preventive aspect is forgotten and the child welfare centres have degenerated into mere dispensaries, prescribing quinine mixtures and purgatives to all and sundry, of all ages. The lady superintendent is of opinion that "in India, where literacy among women is low, medical advice ought to be combined with actual treatment for achieving an adequate measure of success." We can only say that the end has not justified her means. During the year 12,600 labour cases were attended to. But most of them were normal cases and those who reaped the benefits of the scheme where the rich who could afford to pay for their treatment. As in the Mambalam extension, so in the child welfare and maternity scheme, it was the poor that were forgotton and the rich that really reaped the benefits. It is high time that a committee be appointed to take stock of the existing methods and do something that will be a real life saving maternity and child welfare scheme, with more maternity homes in existence and more antenatal work done than at present.

Space forbids us to dilate any further on these subjects. Suffice it to say that no department of Health, however vigilant it may be, can check and prevent preventable diseases so long as the fundamental essentials of civic administration such as drainage, water-supply, conservancy, control of foodstuffs, are imperfect, unreliable and even dangerous. We mentioned in the year 1925 that public Health administration, to be a success, should be entirely divorced from party politics and that politicans of all shades of opinion should, in the interests of civic administration, join hands and work in unison with the Health officer and his department so that they may infuse confidence in the public." Time has not altered our view and we note with regret, that there is a tendency to make the Health officer a victim of party politics. We hope that all concerned will rise above petty differences and make the city a happier, cleaner and a healthier one.

PROCEEDINGS OF SOCIETIES, MEETINGS &c.

Royapuram Medical Licenciate's Meeting.

A meeting of all the Licenciates attached to the Government Royapuram Hospital and Raja Sir Ramaswami Mudaliar's Lying-in-Hospital was held in Bryson School on Sunday the 15th Nov. 31. at the Government Royapuram Hospital at 11 A.M. under the Presidency of Dr D. V. Venkappa, Provincial Secretary of the Madras Branch of the All India Medical Licenciates' Association. It was a fairly big gathering of about 40 doctors who assembled and discussed the proposed All-India Medical Council Bill.

Dr. Kolagatla Rama Rao, House Surgeon and Organiser of the meeting in proposing the President touched briefly about the Bill and impressed upon those present the necessity of enlisting themselves as members of the Madras Branch of the All India Medical Licenciates' Association, Doctors, C. Ramachandra Iyengar and K. S. Sivaramakrishna Iyer and others spoke at length about the desirability of the inclusion of the L.M.Ps. in the proposed All India Medical Register and detailed to the meeting about the services rendered by the Sub Asst. Surgeons. The following resolution was then unanimously passed :—

'This meeting of the Licenciates attached to the Government Royapuram Hospital and Royapuram Medical School views with great concern and anxiety, the proposed All-India Medical Council Bill in which it is contemplated to exclude Licensed Medical Practitioners in the purview of the All India Medical Register and hence earnestly appeals to the Government to remove the obstacle in view of the fact that they are qualified Medical practitioners recognised by the Provincial Medical Council.'

The President whilst thanking the Organisers of the Meeting gave a brief history of the origin and growth of the Association ever since its birth at Bangalore in 1906. It was an organisation about a quarter of a century old and the Association was on the eve of celebrating its Silver Jubilee at Dharbannga next month. He traced the origin of the class ever since the begining up to the present moment, when the denomination of the L. M. P. took different names and how the different heads of the Medical Department including the Director Generals of Indian Medical Service and Governors of the different provinces presided over their conferences and how they spoke of the invaluable services rendered by the class as a whole. He gave extracts from the speeches of Lord Chelmsford, Sir Pardey Lukis, General Giffard and Major General Megaw and other important personages and pointed out that they were the everlasting testimonials given to the class which well nigh befitted them for recognition in the All India Medical Council. He pointed out that the Association was carrying on a vigorous campaign all over India and hence wished that more should join the rank and file of the Association at this juncture.

With a vote of thanks to the Chair and the authorities of the Hospital, the meeting terminated at 12-30 P.M.

Correspondence.

AN ANALYSIS OF AND DISCUSSION ON "AN INTERESTING CASE OF COUGH."

To

THE EDITOR, The "*Antiseptic*," Madras.

Dear Doctor,

Reference :—Dr. Brindaban Prasad's case in 'Antiseptic' Sept. '31 pp. 687. It is with some interest that I have gone through the notes of the above said case in the 'Antiseptic'. As the case brings to light certain remarkable points, I consider it to be deserving enough to be given a thorough discussion. But before I venture to do so, surely an apology is due to Dr. Brindaban who reports the case. I think he would be broad-minded enough to take this discussion lightly and not as a matter of adverse interference.

Before taking up the case for discussion, it would be worth while to revise the notes as presented in the 'Antiseptic' of Sept. 31. Having done that, I would like to analyse the Case-notes into the presented facts of the case and would make a passing reference to the additional facts which one would like to investigate, if there be facilities enough to do that. Further I would propose to deduce certain salient features of the case from the facts so analysed. Having done that with little discussion, one would get certain suggestions, working on which one is enabled to propose certain lines of treatment merely in the style of a broad outline without going into minute details. The utility or futility of this outline would only be judged by the report which the original reporter would be good enough to supply after putting it to a clinical trial.

THE FACTS OF THE CASE.

General Condition :—A girl aged 25, of fairly healthy constitution, belonging to a respectable and well-to-do family, married 9 years back, appears to be nervous and timid—so much so that she cannot face even a dark room—gets a periodic and pre-menstrual dream concerning some dirty woman and yet with all these mental stigmata she never recorded a history of any hysterical fit.

2. *Menses* :—Menstruating for the last 9 years, perhaps without ever getting pregnant : for the first 2 years normally : next 4 years associated with Dysmenorrhea : for the next 2½ years dys-

menorrhea associated with dry cough and for the last 6 months irregular flow associated with pain and tearing sensation and teh usual cough.

3. *Inter-menstrual periods*:—Perhaps no trouble except a little dry cough.

4. *Cough*:—Dry in nature, always present in a negligible degree, periodic exacerbations associated with menses, associated with only little congested throat, intensified by lying, also associated with a degree of insomnia, no evidence of lung affection, dating back to 3 years and getting persistently worse.

5. *Insomnia*:—It is associated with the coughing paroxyisms and is getting increasingly worse.

6. *Physical examination*:—It neither reveals any abnormality in location of the uterus nor perhaps any other obvious affection of the genital organs. The respiratory tract reveals nothing abnormal. Only the throat is a little congested. The condition of the gastro-intestinal tract is not mentioned.

7. *Medication*:—It appears that she has not spared anything either from the Hindu Pharmacopaea or the Foreign Pharmacopaeas, that was from time to time suggested and yet she keeps on as worse—perhaps more,

THE MISSING LINKS.

Menses:—The type and duration of flow and its variations in the last 9 years; presence or absence of clots: the type of dysmenorrhoea: backache, headache and other aches and pains,

2. *Reproductive organs*:—Leucorrhoea: history of any pregnancy or abortions or of any disease, even though mild, of these organs, evidence of any pain, enlargement or abnormality in ovarian, tubal or uterine regions, on recto-vaginal or abdomino-vaginal palpation; Potency of Fallopio-utero-vaginal tract. In fact a second thorough Pelvic examination would be quite helpful.

3. *Sexual Function*:—History of the use of contra-ceptives: desire of having children or its absence; dyspareunia: unsatisfied sexual desire or the history of any sexual catastrophe leading to sexual psycho-conflict. Of course these are all delicate points to be investigated still more delicately and with proper skill and tact.

4. *General*:—Temperament-irritable or otherwise: history of business or family worry or nervous shock antecedent to or coincident with dysmenorrhoea or cough: condition of uvula, teeth or other possible sources of reflex irritation with special reference to the Anatomical and functional condition of gastro-intestinal tract and genitals: condition of urine and blood during and between the flow. Even X-Ray chest would not be out of place if available and convenient.

114

All these points are helpful links to understand the nervous, mental, endocrine and physical elements in the case. These points if investigated are likely to help as supplementary facts in arriving at the cause. The psychic factor especially in its relation to the sexual and reproductive function requires special investigation. It might reveal some psychic complex repressed and that might bring the key to the whole question.

The Salient Features which one deduces from the above facts of the case are :—

1. Dysmenorrhoea.
2. Dry Cough closely associated with 1. in periodicity and intensity.
3. Evidence of a degree of Psycho-pathological state.
4. Sterility.
5. Insomnia.
6. No other obvious abnormality.

Dysmenorrhœa :—From the history it appears to be neither membranous nor typically congestive or spasmodic—to be congestive it must have evidence or history of a local physical disease; to be strictly spasmodic it must date back to start of menses. Anyhow I am inclined to consider it to be that type of dysmenorrhoea which comes strictly under none of these 2 headings and yet is sufficiently commonly seen. In such cases, I consider, a mild unnoticed Ch. infection of the uterus, tubes or ovaries, associated with a degree of lowered nervous thresh-hold, are the factors which play an important role. There is often found to be a hysterical tinge on investigation and perhaps sometimes the patient exercises a more or less conscious role over the function of menstruation. Broadly speaking dysmenorrhoea resulting from changes even though minor, as an effect of infection, should come under congestive type.

Dry Cough :—It can be ushered in by conditions which can be local, general, or reflex—Local, in the way of bad throat, long uvula, tonsils etc. General in the way of hysteria, nervousness etc. and Reflex in the way of laryngeal, tracheal, bronchial, pulmonary or Pleural involvements, enlarged bronchial glands, mediastinal tumours, gastro-intestinal dis-orders, worms, some disorders of genitals, irritable cough of early phthisis, reflex dental or aural cough etc. etc.

In this case the co-occurence of cough and dysmenorrhoea, at first sight might appear to be a mere coincidence. On a little reflection it becomes soon evident that it is a real association—an association which keeps up even when the menses becomes irregular. It might be suggested that the two conditions having independent origins can help to bring about exacerbations of one another or still

better on the excitable nervous soil with the help of endocrine and metabolic factors and mild infective processes, the menstural flow can manifest as an anamoly and the excitable throat perhaps with enlarged uvula, can be hyper-excited reflexly to cough.

The Psychological factor :—The dread of the darkness, the general timid nature and the definite periodic associated dream, point to a general nervous state and some psychological. So to say there is evidence of lowered thresh-hold of nervous stability and presence of some degree of psycho-neurosis (perhaps associated psycho-sex complex repressed). Psycho-analysis might throw some light on the subject.

Sterility :—There is no mention in the case report of any effort made to make out the cause of the sterility. One cannot say, without ascertaining, that it is a self-inflicted one. In an Indian woman, of 9 year's married life, in the absence of the use of any contraceptives, sterility is surely a subject which requires thorough investigation. The energy so utilised, I am sure, would justify by its results. Non-contraceptive sterility is surely a functional or structural abnormality in one of the partners of the sexual congress. If there has been ever any abortion, it can lead one to suspect of some infection or inflammation of the uterus or its adnexa : if there has been sterility, it can lead to incriminate the husband or some or more constituents of the female genitalia. And above all, in it may be found the real cause underlying the sufferings of the poor victim, who has been lead into a nervous break-down and physical sufferings.

Insomnia :—Though severe, it appears to be, an effect of cough and nervous factors. It is liable even to complete the vicious circle and make the condition worse.

Note .—I am dealing this case at length for I want to impress that thorough investigation must be instituted in all such cases. And it would be surprising to see that often how much suffering has got its seed in a trifling cause. Every human body is a complex biological machinery to be judged on its own merits, peculiar to itself.

The discussion of these salient features of the case leads one to think of **Certain Suggestions.**

In this case the most important factors which appear to be working at the base, appear to be the nervous factor and the to-be-investigated cause of sterility.

At the periods of normal menstruation there occurs a degree of increased susceptibility to infection and also to external and perhaps to internal stimuli. In nervous individuals it is still more marked. This hyper-susceptibility at menstrual periods is liable to lead to

hyper-irritation of the spots in the body, already manifesting a little bit of pathological condition. A slight abnormality in genitals or adnexa or in the throat is liable to lead to pathological manifestation in these spots. Endocrine, nervous, and metabolic factors (especially the calcium factor of Blair Bell) play an important part in normal menstruation. Any dis-harmony in these manifests as a symptom, or symptom-complex. Also any endocrine disharmony is liable to be accentuated by menstrual cycle. In this case there is evidence of reflex cough due to hyper-irritability of some organ. In general that organ can be any from anywhere in the body or an organ from the endocrine chain and in particular an organ concerned with menstrual cycle or still more an organ which is menstrual and endocrine in one. The cause of sterility might be found in one of the organs of generation and that organ might be the seat of irritation during menses and that irritation might be reacting reflexly on the throat. In addition there can be a psycho-neurotic tinge, which could be only revealed by an expert psycho-analysis.

That the close association exists in this case in menstrual anamoly, cough and insomia, is further well proved by the fact that even when the menses has become irregular in the last 6 months, these 3 have associated themselves in the irregularity even.

Having gone on at length with the discussion on the case, still requiring some light on the supplementary facts, one is only in a position to outline a treatment, which would be mainly provisional and symptomatic. But if the investigations are carried out on the lines suggested above, there is every chance to find out the cause. The cause having been found treatment follows itself.

By the way I would like to mention a case. A woman, who never bore any issue, over 30 years of age, had been suffering from terrible fits of vomiting for over 15 years, associated with menses of an irregular and painful type, was absolutely cured once for all, of her vomiting, by the simple operation of dilatation and curettage. But the poor lady has brought forth no baby as yet.

TREATMENT.

Certain lines of treatment are indicated.

(A). During Inter-menstrual periods:—

1. Measures towards promoting the general health by dietetic, hygienic and more or less athletic measures.

2. Measures towards controlling the general irritability and nervous state by administering sedatives or still better sedative—stimulants, like suitable combination of bromides and strychnine B.D. after food. A.F.D.'s Bromo-Valerianate Gabail is also good. Blair Bell's Nascent Calcium Lactate in mixture grs. 30 every

alternate night at bed time, continued for 2 or 3 months, does admirably well sometimes to allay general nervousness and restoring normal menses.

3. Measures towards treating throat, long uvula, and any possible source of reflex irritation in gastro-intestinal tract, ears and genito-urinary tract etc.

4. Psycho-therapeutics:—If possible to analyse and make out the sub-conscious complex or conflict and treat it by suggestion or other appropriate measures. If necessary supplement it with Electric demonstrations.

5. Measures to re-establish the stability of endocrine function and harmonious co-operation of the constituents of the chain, by administering some endocrine compound orally or hypodermically.

6. Mobilisation of general defences of the body by shock therapy—milk or T.A.B. etc.

7. If some surgical defect is made out which can be a possible reflex cause, treat it. Removal of tonsils would perhaps be useless and so would be strong throat cautery. Long uvula must be excised, ears looked to, and teeth attended. Any operation indicated on the genital system must be performed. If every thing fails, it is just worth while to perform D & C operation even if there be no defect. It does help. Cause of sterility must be adequately treated. The cause of sterility would perhaps be the cause of all her sufferings.

(B). At menstrual periods:—

Immediate measures of relief, even though symptomatic, are required to be instituted for:—

1. Cough.
2. Dysmenorrhoea.
3. Insomnia.

Confine the patient to the room or the house, if not to bed. Give her a cheerful company and put her on light stimulating diet. The bowels must be attended to.

A linctus consisting of Syps. Codein Phosp. Tolu, and Limonis, licked 3 or 4 times a day and frequently in bed does help. Morph et Ipecac lozenge can also be tried. A powder consisting of Dover's Aspirin and Veramon āā gr. 5 B. D. and of Dover with Veramon aa gr. 10 at bed time for the first day and gr. 7 for the next 3 days would give gratifying results. In addition hot hip baths, fomentations and liniments and electric demonstration have a place for themselves. Morphia is objectionable for habit formation, but in case of urgency

it can be resorted to occasionally. Mulford's Uteros with the addition of Trs. Camph. Co. and Belladona can also be tried internally

Your sincerely,

PAUNGDE, BURMA,
22nd October '31.

R. L. SONI, M. B. B. S.
Physician & Surgeon, Municipal Commissioner & Member Hospital Committee.

To

THE EDITOR, The "*Antiseptic*" Madras.

Dear Doctor:

In your June issue there appeared an article on "Idiosyncrasy to Tincture Iodine Application," on pages 51 and 52. On reading it the thought strikes me that it was really not an idiosyncrasy to the iodine, but the reaction of the mercury solution with the iodine. You will find that it always reacts that way. It is not advisable to use mercury solutions after applying iodine, unless you want to "sting" him.

Philadelphia, Pa.
2nd October, '31.

Very truly yours,
JOHN C. ROMMEL,
Editor 'Medical' World.

Book Reviews

The complete law of housing.—By H. A. Hill, B. A., (Bar-at Law.) Published by Messrs. Butterworth & Co., London. Copies can be had of Messrs. Butterworth & Co., P.B. 251, Calcutta. Price Rs. 18-12-0.

The Housing Act of 1930 is an earnest attempt made in England to solve the slum problem and provide proper housing accommodation for the working class members of the Nation.' The introduction is lucid and exhaustive and comprises 5 chapters: 'the first of these deals with the earlier history of the housing legislation; the second is a summary of the main provisions of the Housing Acts; the third contains some critical observations on the 1930 Act; the fourth, on the analysis of the slum problem and the fifth, a note on public utility societies specially contributed by Mr. A. T. Pike, Secretary of the Garden Cities and Town Planning Association.' The book must interest the sanitarian more than the lawyer for it is the former who is intimately and directly concerned with the slum problem, which is the same everywhere and presents the same difficulties in all countries. The landlord owning the slum is the same indifferent and refractory figure in England as in India. The Act confers vast powers on the local authorities for dealing with unhealthy areas left in a neglected condition and in a state of disrepair. We commend the book mostly to Medical Officers connected with Public Health Administration in this country and to students studying for Public Health examination. —*S.T.*

Crime as Destiny.—A Study of Criminal Twins—By Professor J. Lange. Published by George Allen and Unwin Ltd., Museum St., London. Price sh. 6/-

The title of the book would lead one to take it as a philosophical dissertation and fail to appeal to any practical scientist who is engaged in the investigation of the causes of criminal conduct. But the author's work is a valuable contribution to the much debated question of heredity or environment, in its bearing on criminal conduct. Lombroso defined the born-criminal as a special type of humanity. Many modern investigators contend that accidental and difficult circumstances in the life-history of the individual play a not-unimportant part in the making of a criminal. The author has kept an open mind and his investigations have been conducted to determine how far one or the other of the two views-heredity or environment—is sustainable.

He calls his method, the Twin-method which is, in fact a study of the life-history of twin brothers and sisters who are born together and who in the majority of cases have grown up together. Obviously the method aims at determining how far innate tendencies which must be identical in twins are the cause of crime. Certain physical characteristics are identical in twins e.g., they are similar in outward appearances such as features, colour of the hair, eyes and skin and they are subject to the same hereditary diseases. On this analogy it is justifiable to suppose that the life-experiences of the twins are determined by inborn tendencies.

The main part of the book is devoted to a detailed account of the life-history of thirty-seven pairs of twins. A perusal of their life-history reveals various influences at work in the careers of these criminals apart from mere heredity. It is impossible to under-estimate these influences. Environmental, physical and social factors are brought to light in various proportions of intensity.

The results of the study of these twins, do not carry us any further than where we are at present with regard to this much discussed question of the relative influence of heredity and environment in the causation of crime.

That heredity is to some extent responsible for a person's experiences in life, has never been questioned. But it is not known how these innate tendencies are inherited. There are enthusiasts of the environmental theory, no less than those who attach importance to physical causes such as disease or developmental error of the brain and other organs of the body.

Every case of criminal conduct must be judged on its own merits. It is high time that the still prevalent idea of crime being merely an evil and an evil to be merely punished was rooted out.

As a means of enlightening public opinion on this important subject the book under review should prove useful.—*F. N.*

DRUG REVIEW.

We had great pleasure in witnessing the film depicting the process of manufacture of Cow & Gate Milk Food shown recently at the Elphinstone Picture Palace. In that film we were shown how the milk from a large number of cows was collected under aseptic conditions and was converted into the finished powder. We saw in the film the difference between the thick, hard curd of ordinary cow's milk and the easily digestible soft light curd of 'Cow & Gate' milk food which is practically indentical to the curd of breast milk. We were also shown in a realistic manner the amount of scum containing Bacteria and other products which were separated during the process of purification. We were also shown how by the passing of heated rollers over liquid milk an absolutely pure powder, a complete food rich in all the Vitamins is produced. The powder could be seen falling down as sheets from these rollers and then the finished product as contained in the well known tins were also shown. The whole process of manufacture from the milking of the cows to the finished tins for sale was entirely untouched by hand. The 'Cow & Gate' Company are to to be congratulated on the production of a very interesting and instructive film which gives one an idea of the magnitude of their enterprise in connection with production of pure dry milk.

The thanks of the public are also due to the British New Health Society whose President, Sir Arbuthnot Lane gives an introductory speech before the film.

ERRATA.

The Antiseptic, September 1931, Page 698.

Line 13 *For* 'geographical' *Read* 'Geogrphical'
" 16 *For* 'Iceland and of the' *Read* 'Iceland and the'
" 21 *For* 'his workers' *Read* 'his co-workers'
" 36 *For* 'sinquanon' *Read* 'sinequanon'

The Antiseptic, December 1931, Page 856.

Line 17 *For* 'G. L. Saxona', *Read* 'R. P. Saxona'

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