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SOCIALISED MEDICINE IN U. S. S. R.*

● HIRENDRA NATH MUKHERJEE

SOCIALISATION of medicine was the slogan raised by Dr. Nikolai Alexandrovich Semashko, who had been in exile with Lenin from 1907 to 1917, and was entrusted by the Bolshevik leader with the task of organising, in July 1918, the People's Commissariat of Health. The central and local organs of the Soviet State must take over the responsibility of providing for every one, at his earliest need, free, accessible and skilled medical treatment. "Only then will disappear, like a shadow before sunlight, all private hospitals and all commercial private practice. This is the perspective of communist medicine." The Soviet government had inherited from its Tsarist predecessor a terrible heritage of insanitary conditions, considerably accentuated by the devastating effects of the Great War. It was a well nigh impossible burden which had to be shouldered by Semashko and his colleagues, but they set about their task with characteristic heroism, and the impress of the revolutionary transformation of ideas implicit in communism can be seen in the goal that they set up. The aim of Soviet medicine, they pointed out, is not only for healing but for the prevention of ill-health, the creation of the positive health of the people. From the beginning, Soviet medicine has been free from the historic distinction between preventive and curative treatment. The object of the Soviet health service has always been to cover the whole span of human life, not excluding even the period that is ante-natal. It has never known any limits of age or sex or race or nationality: the Uzbek and the Kirghiz and the host of other peoples who had been deliberately kept under by the Tsars share equally, as Soviet citizens, in the health service of the community; it has always

tahoored any idea of philanthropy and charity about the care of the sick, which in capitalist countries helps, in effect, to keep down social discontent and prevent organised social effort. Civil war, foreign intervention and famine in the Soviet Union made it impossible to have anything but only a new start in the first five years of its history. But since 1921, there has been progress, which in quantity and in quality is without parallel anywhere else in the world.

CENTRALISED HEALTH SERVICE

The health service of the Soviet Union is completely centralised. Each local Soviet works under a single directing body which prepares a uniform plan for, among other things, the best utilisation of the existing system of hospitals and clinics and for the construction of new ones, for the most effective distribution of the available medical cadres, particularly of the specialists, for raising their qualifications and for the technical re-equipment of medical institutions. The local Soviets organise anti-epidemic measures and sanitary inspection of food, housing and public utilities (water works, drainage, laundries, etc.); they have to protect the health of the workers and peasants, take special care of maternity and infancy, control health resorts, organise pharmaceutical and medical supplies, train physicians and their assistants, and provide for the sanitary education of the masses. The central Commissariat distributes the medical personnel to serve not only the main industrial regions and the Collective and State farms, but also the most distant regions and districts. Another feature of the health service is the participation in its work of many members of the

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Soviets, who according to law must take part in the work of one or more of the different departments. These representative citizens keep the service in continuous touch with the needs of the people. Other workers, who are not members of the Soviets, may also, if they are interested, join in its work, and as a matter of fact, many do, and establish "health nuclei" in every factory and on every collective and State arm, and help to organise the sanitary education of the masses. "The protection of the health of the workers is the task of the workers themselves"—such is their slogan. Apart from millions of pamphlets and leaflets, the cinema and the wireless are used for health propaganda: there are special sanitary education institutes and museums and exhibitions; sometimes the railways would have exhibition carriages, propaganda plays would be staged, and sanitary propaganda trials (drunkard trials, trial of a prostitute, etc.) be held. Is it too much to expect that we in India shall also, in the near future, start work on more or less the same lines for the sanitary education of our people?

"PREVENTION, BETTER THAN CURE"

To prevent the development of disease—such was the object laid down by the Communist Party of the Soviet Union. This prophylactic policy, apart from its importance, was specially necessary in the Soviet Union where, as in our own country, the old insanitary conditions of life had largely survived. Mere curative measures were, thus, not enough. Prevention is achieved, in the first place, by the structure and methods of the Soviet health service, which is organised with a view not only to curing disease, but to abolishing its cause by studying the working and living conditions of every patient. It is achieved, in the second place—and this is very important from the Soviet point of view—by the whole system of socialist construction, by the establishment of public utilities in towns and villages, housing, communal feeding, etc., and by such enactments as the five-day working week, compulsory and paid holidays, insurance against old age and sickness and disability, maternity vacations, etc. Medical stations in the factories, for example, are not content with rendering first aid: they take part in all measures for the improvement of labour conditions. As communal feeding is exceedingly widespread at present and has percolated even to the villages—it helps, one must remember, to emancipate women from domestic drudgery and raises the productivity of labour—doctors are commissioned to supervise the dining-room and the proper storing and preparation of food and to provide dietetic food for those who suffer from intestinal diseases. Sidney and Beatrice Webb have given a graphic description of what they saw in the Stalingrad tractor works in 1932. One hundred and ten qualified doctors (four-fifths of them women), together with 135 nurses catered for 40,000 operatives. Apart from ordinary treatment of some 2500 daily ailments, the health centre gave, free of cost, many forms of specialised

treatment, including radiant heat-therapy, psycho-therapy, mud-baths, and special baths for rheumatism in sand brought from the Caucasus. The immense factory restaurant daily provided six different invalid diets in separate dining-rooms, and children were taken care of in creches, etc., so that the mother could look after her own work at home or in the city.

WOMEN & CHILDREN — THE FIRST CARE

The noted Irish playwright, Sean O'Casey once said that two reasons were enough to make him a communist; one was that Moscow housed the world's best single collection of modern French paintings, and the second that women and children were better cared for in the Soviet Union than anywhere else in the world. In Tsarist Russia, the working woman was the most downtrodden and exploited of beings. The November Revolution of 1917 made the woman man's equal in every respect. Protection of female labour, by the provision, for example, of compulsory leave with pay before and after childbirth, has been a special care of the Soviet State. The mass participation of women in industry has been made possible by the provision of creches which admit children up to the age of four. The little Chuvash Republic, for instance, which under Tsarism, was a criminally neglected and backward province, had 5000 creches in 1932. From 1929 to 1932, the number of creches in the Union increased from 251,400 to 4,529,000. Milk kitchen, children's food stations, "breast-milk stations", women's consultation bureaux, maternity homes (the slogan being: "No woman must give birth to a child at home", mother-and-child carriages on long-distance railway journeys, the fight against infantile infectious diseases, the propaganda against abortion and at the same time its legislation, with the result that abortions are much less in number there than in countries where it is prohibited—these are some of the features of the Soviet health service that must compel interest and admiration. The non-Russian regions of the Union, cruelly and systematically ignored by the Tsar's government, are now equal participants in this great experiment.

DISEASE AND DOCTORS

The principal diseases are systematically tackled by organised concentrations of medical forces. There are special institutes for plague and typhus, enteric and small-pox, venereal disease and malaria, etc. We may take the campaign against tuberculosis, for years the greatest scourge of the Russian people, as typical of the way the Soviets are struggling to ensure health and happiness to the people.

More than a score of institutes are engaged in scientific research, and they are situated not only at such places as Moscow and Kharkov, but at Minsk, Tiflis and Samarkand. Month by month, ever since 1923, the record of their work is published in the voluminous Russian journal, "Problems of Tuberculosis." Special tuberculosis dispensaries, which aim not only at curing the sick, but at examination of his living and working condi-

tions and action accordingly, have been spread out all over the Union. In 1918 they numbered only 4; in 1929, 273; in 1933, 404. There are, besides, numerous tuberculosis hospitals, large and small, for every manifestation of the disease. In 1928 there were 2757 such hospitals, in 1933, 4007; in 1928, 10,505 tuberculosis sanatoria, in 1933, 15,242; in 1928, 7447 localities providing convalescent homes, in 1933, 10,556; in 1928, auxiliary tuberculosis institutions, 7637, in 1933, 10,181.

An important achievement in this line is the so-called "night sanatoria" in Moscow and various other cities, which is a unique Soviet speciality. They are meant to deal with the early stages of the disease when the patient need not give up work and go to a hospital or sanatorium. At this stage the patient, after work, goes to the night sanatorium, washes himself, changes clothes, receives proper food, sleeps under hygienic conditions, and is given necessary medical aid, and returns to work in the morning. Moscow has ten of these sanatoria,—this is a 1933 figure—which admit not only sufferers from tuberculosis in its early stages, but also suspected cases and convalescents of all kinds: persons suffering from nervous exhaustion or digestive troubles, and sometimes even from over-work or neurasthenia find a welcome there.

The task of recruiting doctors have not been easy for the Soviet authorities. There was, in the beginning, reluctance on the part of many qualified doctors to serve the Soviets. But the recalcitrants are now almost a non-existent minority. A most striking example in the change in their attitude is provided by the late Professor Tarasevich, reputed all over Europe, who began by heading the anti-Soviet Pirogov Society of Doctors in 1917-18, and by the end of 1918 was so convinced of Soviet good faith as to work whole-heartedly as Chairman of the Scientific Council of the Commissariat of Health till the time of his death.

Tsarist Russia had fewer than 1300 qualified doctors or less than one per 7000 of the population, and in rural areas less than one per 21000. By the middle of 1935, the qualified medical practitioners had been multiplied seven times and had become one to every 2,000 of the population. Candidates for medical training, who may be of any age, are nominated by all sorts of bodies, mostly by trade union and school committees, though individuals also may and do apply. The recommendations of local Soviets are examined by an expert body; there is now no exclusion, as there used to be earlier, of sons and daughters of the intelligentsia.

TRAINING THE DOCTOR

The training for the medical practitioner, which lasts five years, combines an unusual amount of practical work with theoretic teaching. Students completing their course are immediately appointed by the Commissariat of Health, usually for a three years' period in a rural district; doctor members of the Communist Party have to shoulder, as a rule, the heaviest and least attractive jobs. Hours of work of the doctors in the

Union are restricted to a maximum of six per day; there are, besides, annual vacations on full pay, in addition, for those practising in rural districts, to six months' study leave on full pay every three years. Private practice, not entirely forbidden, brings only a very small additional income to the few elder men in the larger cities who mostly take advantage of it.

The most important cities furnish, naturally, the highest degree of medical organisation. Sidney and Beatrice Webb have given a picture of Moscow where, we find, the population is divided for medical purposes into units of between 40,000 and 80,000 people, subdivided into groups of 2,000 or 3,000 persons, in charge of doctors and nurses and health visitors allotted to them. The members of the clinical staff see their patients in their homes, if necessary; but if well enough, they come to the health centre. The Webbs saw a centre in Leningrad, where 2,000 patients were seen every day, by appointment. Lectures are given in a large hall; on its walls are posters and health diagrams; there are cases containing samples of proper food, clothing and even children's toys. In the prophylactorium is the birth control clinic, with samples of the apparatus required; a lawyer attends regularly to give advice to women concerning their rights and those of their children; psycho-technical examinations are made of school-leaving youths to determine what vocations they are best suited for. An English workman, engaged on constructing the Moscow underground railway, gives an entertaining description, which the Webbs have quoted, of the way he was treated for what he thought was a common cold; his throat, nostrils and ears were examined and his lungs too; he was then sent on, protesting all the time, to the dentist who found he needed a set of false teeth; this and the medicine was, of course, given him free. Whoever is interested should also read the Webbs' account of the splendid provision for street casualties in Moscow which can give points to the great cities of Western Europe and the U. S. A.

THE INDIAN CONTRAST

I wish to refer, in conclusion, to the great scheme which forms part of the Second Five Year Plan—the construction, on a site of more than a square mile in the Silver Forest near Moscow, of the "Medical City", designed to be the largest and most modern medical institute in the world. The director is Professor Lev Nicolaevich Feodorov, pupil of the great Pavlov. A feature will be the "Clinic of the Healthy Man", where the behaviour of normal individuals after his normal activities will be observed and studied. A technical staff of 5,500 doctors, nurses and research workers; 600 patients, each in a private room; almost one laboratory per patient; shops, theatres, libraries and all the paraphernalia of city life—such are the features of this gigantic scheme. The total expenses for its establishment reach into astronomical figures. But the results of this experiment may well prove of immeasurable importance.

A recent estimate in our country showed that the proportion of doctors to the population in British India is 1 to 10,000. This is bad enough; but it looks worse when one finds that for lack of a co-ordinating social policy, the proportion is as high as, or even higher than, 1 to 1,000 in certain urban areas, where medical unemployment is most acute. The Soviet system, of course, is based on a philosophy which is yet to win its way in India. The Soviets have not only multiplied medical facilities, they have injected into the health service a new spirit. This is why one finds, for example, Dr. M. A. Meyer, formerly director of the New York Psychoanalytic Institute, saying that the number of cases of neurosis, depression and suicides is lower in the Soviet Union than in the capitalist countries, because the Soviet citizen is relieved of certain anxieties, fear of unemployment in particular, which exist elsewhere. The Soviet system, therefore, will differ in quality so long as the Soviet way of looking at society is not adopted elsewhere. But there is something about the quantity of Soviet achievement which is almost staggering. Shall we refuse even to learn from Soviet example!

Post-Graduate Medical Education in Germany*

- Dr. K. Blome, Commissioner for Post-graduate Medical Education in Germany and President of the Bureau of the International Academy for Post-graduate Medical Education.

OBLIGATORY COURSES

Post-graduate medical education in Germany was divided into two principal sections, the one obligatory and the other optional. The obligatory organization was introduced in 1935. It was under the control of the Reichsarztetfuehrer, and was directed by a deputy for this special subject. It was impossible at once to bring the whole of the members of the German medical profession into the arrangement, and therefore a start was made with the country doctors and the doctors in small towns. Post-graduate facilities for these were the more pressing, not because such men were inferior in knowledge or calibre to urban doctors but because, being often at a great distance from the nearest hospital and specialists, they had frequently to bear greater responsibilities. Moreover, their opportunities for improving their knowledge were less than those of their colleagues who practised in large towns. The division in the organization as between country and town doctors was, however, only a temporary one and would disappear in years to come.

Once in five years every German doctor was compelled to attend an obligatory course of post-

graduate study, certain cases excepted, such as university teachers and "official doctors." The course lasted three weeks, for which time the post-graduate "student" in most cases left his practice and his home and was lodged in a special hostel or in hospital, where he could devote himself entirely to his studies. In the large towns, however, the greater number still lived at home. The whole organization for postgraduate study was as far as possible decentralized with due regard to the needs of the locality. Up to the present sixty-five places had been instituted in Germany, without counting former Austria, for post-graduate organization. Towards the end of the year each doctor whose turn it was was invited by the competent officer to report himself voluntarily for a course of post-graduate study. If the names sent in were too few to form a course the head of the Reichsarztetkammer (German Medical Chamber) decided who should take part. As much regard as possible was paid to the personal wishes of the doctors concerned as to the time and place of the course; this was nearly always possible if the names were sent in time.

A FLEXIBLE SYSTEM

The person at the head of the courses in each place was a very important official. It was for him to see that there was no clash in the programme. He was also in frequent conference with the "chairman," whom the members taking each course appointed from among themselves, and who informed him of the wishes of his fellows. The programmes for the courses in the different places corresponded in certain definite respects, ensuring a minimum of lessons and lectures on the several subjects. But the system was never intended to be inflexible. Each participant, if he wanted to, had the opportunity, beyond the minimum requirements of the course, of brushing up his knowledge in any respect in which he was aware of gaps or of cultivating a field in which he was specially interested. In every case a point was made of visits to factories or other works in the neighbourhood so that those attending the course might be familiarized with the conditions under which people worked and lived. Another important feature was discussion between the lecturer and the members of the course. The doctor attending a course of post-graduate study was not regarded as a school-boy to whom instruction was imparted, but he was encouraged to take part in discussion, which was often as beneficial to the teacher as to the class.

RESPONSE TO COMPULSION

In the choice of lecturers special regard was paid to ability to deal with the matters in which a doctor was interested in his practice. It was by no means always university professors who were chosen, nor were university hospitals necessarily preferred. The lecturers included general practitioners and specialists in all fields, and hospitals were chosen for their structural and other suitability for the instruction of the practitioner, and not necessarily on account of their university status.

How was post-graduate study as an obligation being accepted by the German medical profession?

At the beginning he wondered whether such an obligation would be regarded as tiresome or perhaps even as an infringement of personal liberty. With a view to obtaining information as to the usefulness of the course programme, he asked the doctors attending to write their personal impressions and make suggestions for improvement. In the course of time he got many such letters, and their general tone was one of satisfaction. Many of them stated that the writers had accepted the obligation without alacrity, but now felt glad that the institution had been created. Further a large number of doctors who were not bound to attend the courses—being over 60 years of age—reported for them. The success was partly due to the arrangement whereby as a rule not more than twenty doctors formed a course. This arrangement guaranteed close contact between lecturer and class.

The doctor in the large town paid R.M. 70 for the course, board and lodging included. No fees were paid to the lecturers in the obligatory courses, the lecturers regarding it as their duty to work without remuneration. In general, in towns, the other doctors attend to the practice of the one who is called up for the course, but in districts very thinly populated a locumtenent might have to be engaged, and help in this respect was afforded by an employment bureau. The placing of the student doctors as far as possible in a separate hostel or in quarters at a hospital had its advantages in increasing comradeship and good fellowship among them.

ENCOURAGEMENT OF SPECIALITIES

Dr. Blome then gave a description of the schools themselves, in which from eight to ten three-weeks courses were arranged each year, each course attended by about twenty doctors. In the teaching the doctor was shown the possibilities and limitations of his profession, his sense of responsibility was encouraged, and he was taught as far as possible what to do should no specialist or hospital or other institution be available. Specialism was encouraged in certain directions, but never until it was assured that a full general knowledge of medicine had been acquired.

The subject of psychology in dealing with patients was not overlooked. In Germany, as elsewhere, there were unregistered persons with no medical knowledge who, however, were often successful in treatment because they understood better how to meet the psychological needs of the people. It was necessary for the medical profession to accommodate itself to the fact that a large part of the population had a strong inclination towards "nature cure" and the like. Efforts had been made to enlighten the people with regard to quackery, but without success; on the contrary, these had made the medical quack more popular. German doctors had been forced to take note of "nature cure" methods, and, so far as they were of real value and not mere charlatanism, to include them in their own therapeutics. In the post-graduate instruction these factors were fully taken into consideration.

From first to last the task of the physician was visualized not merely as that of getting ill people

well but of maintaining and enhancing the common health, and this would never be a matter of pure science, but, especially, of human experience and knowledge.

OPTIONAL POST-GRADUATE STUDY

A system of optional post-graduate study had also been arranged in Germany, differing from the obligatory in being international. It was felt to be important to centralize these optional courses, for without such centralization there might well be diversities of quality, and quality in this field was more important than quantity. Only if the organization was in the hands of highly qualified doctors could there be an assurance that the courses would represent a high level of medical science and experience. In the past it had happened that some organizers of post-graduate study of an optional kind, together with managers of health resorts, had introduced commercial interests. With centralization this was no longer possible.

In future there would be five academies for optional post-graduate study in Greater Germany—at Berlin, Dresden, Hamburg, Munich and Vienna. The academies at Berlin and Vienna would have a comprehensive character. The one at Dresden, at the Rudolf-Hess Hospital, would aim at the proper incorporation of nature cure methods within general medicine. The Hamburg academy would be concerned especially with tropical medicine and hygiene. The one at Munich would occupy itself above all with prophylaxis—that is to say, the doctors attending would be instructed especially in the prevention of industrial disease and accident. They would not occupy themselves so much with diseases which had already made their appearance, but would learn from a study of the conditions of life and work of the artisans how maladies might be prevented.

INTERNATIONAL EXCHANGE OF FACILITIES

Doctor Blome said that there was no need for him to emphasize that in addition to these courses the national organization supported as far as possible in accordance with its centralized system the formation of study groups and associations of doctors. It was very interesting to observe that in spite of the institution of obligatory post-graduate study the optional courses were considerably better attended than formerly. An extremely important task awaiting the organization was the making of systematic arrangements for exchange both of teachers and of post-graduates between the various countries so that a better knowledge might be gained of the way in which medical practice was modified by the climate of a country, its natural situation and possessions, the habits and customs of its people, its sports, and so forth. Much could also be done by the exchange of films of a medical character between different countries. He believed that the film in future would play a very important part in post-graduate study. In Germany the film was being employed more and more in teaching, and an international exchange of really good films, would be most productive.

*A Lecture delivered at the British Post-graduate Medical School, Hammersmith, November 4, 38. Courtesy: B.M.J.

One of the great aims in all this work was to place at the disposal of the ordinary doctor the technical resources of modern medicine, he being fully instructed in their use. He deplored the fact that such an invention as the x-ray apparatus should be left in the hands of a relatively limited number of medical men. In the post-graduate courses an endeavour was made to equip many more doctors with x-ray apparatus of a certain limited capacity, and to give them special training and instruction in its use.

NATIONAL SOCIALIST HEALTH POLICY

The lecturer showed pictures of the beautiful post-graduate school which served the province of Mecklenburg. It appeared to be an adapted country mansion in charming grounds. This school was used for a special purpose, beyond the general form of post-graduate study. It was an institution for the training of German doctors and others in the National Socialist principles of health policy. Here were trained men responsible for directing the work of students at the different universities. The school was open also to members of professions allied to medicine, such as dentists, midwives, and pharmacists. He concluded by saying that those concerned in this work in Germany were not seeking only the interests of the individual doctor but the service of the health of mankind.

• Proceedings of the 16th Annual Medical Research Workers' Conference, Delhi, Dec. 8, '38

Honourable Kunwar Sir Jagdish Prasada's Opening Speech:—

You have come here from various parts of India, some of you from the remote South, in order to apply yourselves to an extensive and formidable technical agenda.

As you are probably aware, the Research Fund Association was founded in 1911 through the foresight of the late Sir Harcourt Butler, the first Education Member of the Government of India and one of the greatest Governors under whom it has been my good fortune to serve. He did many big things in a big way, and not the least of them was the foundation of this Association. Let us cherish his memory in grateful remembrance.

The Association has produced one remarkable result during the comparatively short period of its existence, namely, the training of a large number of Indian research workers of proved competence. Out of one hundred and six research workers paid by the Association no less than one hundred and three are Indians. In the Medical Research Department of the Government of India sixteen officers out of twenty-five are Indians. Research, therefore, is now predominantly in the hands of Indians, and they are the inheritors of a great tradition. Medical research in India has many achievements to its credit, specially the notable contributions it has made to our knowledge of

kala-azar, malaria, plague and cholera. Prolonged research discovered the probable carrier agent of kala-azar and produced a method of mass treatment which practically stamped out the disease in its chief home, Assam. The efficacy of our prophylactic anti-cholera and anti-plague vaccines is now generally recognised. Though much work of world-wide recognition has been done in regard to malaria, it is still one of our most formidable enemies and continues to take a heavy toll of life and to sap the energy of a vast number of our people. While we are proud of our achievements we cannot yet say, as for instance it can be said of England, that cholera, typhus, typhoid, plague, small-pox and malaria have been stamped out.

There is still a wide gap in this country between the results of research and their successful practical application. Poverty, ignorance and prejudice among the masses, a certain scepticism as to the results of medical research among the educated classes, with a consequent absence of continuing pressure of public opinion on Governments for effective measures against disease, are some of the many causes which seem to make India the prosperous home of so many human scourges. In no country, except perhaps China, is the need for continued research and its practical application so insistent as in this country where life is often an uninterrupted gamble in disease. The prevalence of such a distressing variety of deadly human ailments in this country probably accounts for some of the deep pessimism and fatalism that pervades Indian thought. The sorrow and deep tragedy of life, rather than its joy and brightness, obsess the mind. Such an attitude numbs initiative and deadens the effort to make life worth living.

In my view nothing is more likely to stimulate public opinion and to make it realise the extent to which organisation under scientific direction can be effective, than the eradication or control of even a single disease in a specified area. If we can free even one infested town of, say, malaria, we will have made a great advance in the education of public opinion. From this point of view the intensive and hitherto successful campaign against malaria in Delhi is of more than local importance. It not only brings the results of research, as it were, from the laboratory to the market place, but what is more important, it produces a healthy change in the attitude of the people in regard to the effectiveness of modern public health methods. I am sure that if we could say with confidence that we had completely freed Delhi of malaria and had made Simla safe for those who are now drawn there more by the force of circumstances than by reason of its reputation for salubrity, we should have done much to bridge the gap between medical research and its successful application to the lives of the people. We should have taken a big step forward to convince doubting men and woman that there could be no more suitable object of public benevolence than the endowment of medical research.

Without the aid of public benefactions I fear that with our present financial resources, the provision for medical research must remain inadequate for many years to come. In comparison with Western countries our expenditure on research is meagre and there seems little prospect of improvement in this respect in the near future. At the same time I fully recognise that it would be short-sighted policy if violent budgetary oscillations were to result in throwing out of employment a number of workers engaged in important work and in the prime of their powers. Such a policy would indeed give a serious setback to research in India and will, I hope, never find favour.

While I am on this subject of research I should like you to remember that in a poor country like India it is not enough to discover a remedy. If it is to be widely adopted it must be within the means of the Government and peoples to apply. To give an illustration, the efficacy of quinine in the treatment of malaria is recognised. We all know, however, that at present prices quinine can be used by only a very small fraction of the population. Research must, therefore, continue into remedies both preventive and curative which may be within the financial resources of the country. In India the research worker cannot ignore the economic conditions of the people for whom his researches are primarily meant.

It will be generally admitted that some of the fundamental causes that produce ill-health such as poverty, overcrowding, defective sanitation and water supply, evil social customs and ignorance of the laws of health, are outside the immediate field of your work. Your primary concern is, I take it, with the causation, prevention and cure of human diseases. Your object is to save human life and to alleviate human suffering, in contrast to some researches in other realms of science where new discoveries seem to threaten the very existence of civilisation as we know it.

I do earnestly pray that no diabolical ingenuity may ever pervert the discoveries of medical science to the destruction of mankind. It is my earnest hope that by your continued researches you may place at the disposal of the men and women of this country and of their Governments powerful weapons with which to destroy the long and desolating supremacy of disease and preventable death in this country and to secure for the people of India the inestimable blessings of health and physical fitness.

Presidential Address by Major-General Bradfield

RESEARCH AND FINANCE

In discussing the affairs of the Indian Research Fund Association, its research activities during the present year and its plans for the coming year, I may be excused if I open the proceedings with a depressing note. I feel it my duty to bring to your notice at once that, contrary to expectation, the financial position of the Association, which

had been a cause of anxiety to both the Governing Body and the Scientific Advisory Board for some years, had not improved. Since 1932 the activities of the Association had been maintained at their present level only by drawing on capital funds, because the Government of India had been unable to give an annual grant larger than 1,50,000, compared with its previous grant of 7,50,000. It was hoped that this drain on the capital of the Association would be appreciably reduced during 1938-'39 by the Government of India undertaking responsibility for the Public Health Section of the Malaria Institute of India. Unfortunately, this hope had not materialised and the Governing Body had been compelled to draw further on its capital to the extent of Rs. 4,50,000.

I mention these facts so that you would appreciate the necessity for close scrutiny of the proposals for next year's programme. After the unfavourable financial position revealed itself in April last, the Executive Committee of the Governing Body was compelled to consider whether some, if not all, of the newly sanctioned researches should not be cancelled. Any such step would have meant the postponement of important investigations, and would have resulted in disappointment to those workers who had convinced the Scientific Advisory Board of the merits of their particular proposals and who, in some cases, had already engaged their staff. The Executive Committee, therefore, came to the conclusion that whilst sanctioned researches should be allowed to continue, the officers in charge should be required to limit their expenditure to absolute essentials.

PROVINCIAL RESPONSIBILITY

The number of enquiries being conducted this year was 63 compared with 53 in 1937-38 and with an average of 38 during the five preceding years. Applications had been received for the continuation of 56 enquiries and for the inauguration of 22 new enquiries, or 78 in all. It would be necessary to examine every proposal with the greatest care, but the Scientific Advisory Board and the Governing Body would, as usual, give full consideration to their discussions and to the recommendations made by the Conference.

The grants given during the present year, numbered 42 to laboratory enquiries and 20 to field enquiries. Nineteen of the enquiries were in medical colleges or schools. I draw your attention to a matter which is not as fully appreciated as it should be. Whilst the Indian Research Fund Association had always considered applications for grants from medical colleges, it should be remembered that modern practice assigned a definite responsibility for research,—and more particularly for investigation into problems of local interest,—to teaching institutions, which should be provided with the scientific equipment and staff to undertake them. As evidence of their active association and sympathy with the ideals of this Conference I appreciate the attendance of a number of representatives of medical colleges, many of them old friends. Their research activities call for our sympathy, but I submit, they should also look for

encouragement from the governing authorities of their own colleges and seek financial support from their Provincial Governments.

COMMITTEE'S REPORT

Regarding the committee of six which the Governing Body had set up to enquire into the conduct of medical research under the Indian Research Fund Association, let me say that the sub-committee, after preparing a preliminary draft earlier in the year, had met last week to adopt the final form of its report to the Governing Body. All that it is possible for me to say at the moment is that the committee has taken a broad view of its terms of reference.

During the year six officers were recruited to the Medical Research Department, including one for special research in malaria. Four had already joined and the others are expected to do so shortly. I trust that these new recruits would make every effort to maintain the high standard which had in the past characterised the activities of this Department.

In a resolution passed at last year's Conference regarding the necessity for placing adequate and cheap treatment of malaria within the reach of the people, it was noted that the Government had instituted an enquiry into the possibilities of extending the cultivation of cinchona in India. The report of the special officer appointed to conduct that enquiry is now in the hands of the Imperial Council of Agricultural Research. The completion of this enquiry is an important step towards ascertaining the possibility of making India self-supporting in the matter of its quinine requirements.

CHOLERA DANGER

The great danger which this disease continues to present in India is illustrated during last spring when, as a sequel to the large *mela* held in Hardwar, an epidemic broke out and spread over wide areas of the country. The administrative control of these outbreaks would be more suitably discussed at the Central Advisory Board of Health meeting which is to be held early in January. At this Research Conference you would be more concerned with the efforts being made to elucidate the causes of such regrettable outbreaks and, perhaps, you would be able to assess the results achieved by the enquiries which had been in progress during the last five years.

Owing to the uncertainty which existed in regard to the relationship between the *V. Cholerae* and other vibrios, and in regard to the serological differentiation of the different types, the International Office of Public Health in Paris had decided that special investigations on these questions were urgently necessary. As a result of earlier work, it had been made evident that many points could only be cleared up by research carried out in endemic and epidemic cholera areas and India was asked to undertake this work. Owing to the nature of the problem the work in India had naturally fallen into two phases, one laboratory investigation and the other conducted in the

field. The phase of laboratory investigation had involved the collection and detailed examination of some thousands of vibrio strains from cases of cholera, from carriers and from water. Their work had proved that vibrios of many different types were widely distributed in nature, but by the adoption of new serological methods, the true cholera vibrio could now be differentiated from other types, whose presence in water supplies and human carriers had in the past led to much confusion.

FIELD INVESTIGATIONS

With a new and reliable basis for the diagnosis of the cholera vibrio and with more accurate knowledge of the distribution of other types we are now in a position to undertake on an effective basis the second phase of the enquiry, namely, the field investigation of the factors concerned in the epidemiology of cholera and particularly those concerned with its persistence in certain endemic areas. The Cholera Advisory Committee would, therefore, be asked to discuss a proposal to terminate the enquiries of an essentially laboratory nature and to concentrate on field work in endemic areas such as are to be found in Bengal and Madras.

The work so far done had been undoubtedly productive and its value had been warmly appreciated by the International Office of Public Health. The Cholera Commission of that body in its report of May 1938 recorded its acceptance of the findings made in India which had answered the questions put forward by them in May 1934. Throughout these investigations close association had been maintained with workers of the Medical Research Council in England and I hope shortly to present a full and co-ordinated account of this work.

NUTRITION

A training course for health officers in public health nutrition work, including methods of carrying out diet surveys, was held at the Nutrition Research Laboratories, Coonoor, in February and March last. Fifteen officers attended, twelve being from Indian States and the remaining three from Delhi, Orissa and Sind respectively.

Satisfactory publicity had been given to recent work of practical value to India by the issue of a Health Bulletin entitled, "The Nutrition Value of Indian Foods and the Planning of Satisfactory Diets." To increase the circulation of the important information contained in this Bulletin, the Government of India had agreed to issue it at the specially low price of two annas. Nearly 25,000 copies had been sold. An up-to-date and enlarged edition was in the press, and an important improvement, which made the bulletin of greater value to the layman, was the inclusion of Indian names for the different foods.

Last year the Nutrition Advisory Committee emphasised the finding that skimmed milk was of great value in improving the health and develop-

* A summary of the Bulletin will be found published in our *Nutrition Number*, December 1938. Ed., I.M.J.

ment of Indian children and recommended that milk powder containing not more than 4 per cent of fat should be exempted from customs duty. This recommendation had been accepted by the Government of India, so that imports of skimmed milk from Great Britain were now free of all duty whilst the duty on that from other countries had been reduced to 10 per cent.[†]

The important Conference of Far Eastern Countries on Rural Hygiene held in Java in 1937 recommended the establishment of a National Nutrition Committee in each country. The Government of India had accepted this recommendation and had decided that the Nutrition Advisory Committee of the Indian Research Fund Association should perform the functions of a National Nutrition Committee for India.

The value of the work done under the auspices of the Association in the matter of nutrition and the high esteem in which the Association's Nutritional Laboratories at Coonoor were held by Eastern countries had been indicated, by a request from the League of Nations Health Committee that the Coonoor Laboratories should assume the task of co-ordinating nutrition research in the East. This request would come before the Governing Body for consideration at its next meeting. In March last, the Governing Body had given sanction to the acceptance by the Director of Nutritional Research of membership of the League's Technical Commission on Nutrition. During his leave this summer, Dr. Aykroyd attended a meeting of this Commission.

MALARIA

Regarding their malaria organisation, disappointment was experienced when the Government found it impossible for financial reasons to take over the Public Health Section of the Institute, an important element of which was the Field Experimental Station at Karnal. In 1936 this Conference had recommended that the Experimental Station should be transferred from Karnal to Delhi at the earliest possible date. There were obviously desirable reasons for making such a move. In the first place, it brought this important field unit into closer contact with the general public and with irrigation and other engineers. Moreover, a valuable museum had been built up at Karnal, but its remote situation was a serious handicap to its usefulness. The Government of India had agreed this year to give Flagstaff House in Old Delhi to the Association housing the Field Experimental Unit and the transfer from Karnal to Delhi is now in progress. In addition, the annual malaria classes would in future be held in Delhi where the anti-malarial schemes now more or less completed would constitute an excellent demonstration of the value of anti-malarial schemes based on sound knowledge.

YELLOW FEVER

Last year I made a brief reference to the danger of the introduction of yellow fever into India

[†] Since skimmed milk is available in plenty in India the Government of India is not at all justified in allowing duty-free imports of the same. Ed., I.M.J.

owing to the rapid development of air transport. On two previous occasions at these Conferences General Graham, the late Public Health Commissioner, made a statement on the position as it then stood. An important part of their preventive organisation was the arrangement under which the Sanitary, Maritime and Quarantine Board of Egypt not only kept them informed of the movements of suspected passengers proceeding to India but also took steps to destroy mosquitoes which might be present in suspected aeroplanes coming to this country. Colonel Russell had visited Egypt last spring and later in the Conference would give them a description of the present epidemiological features of this disease and the preventive measures now taken in this country against possible introduction of infection.

After his visit to Egypt, Colonel Russell had also discussed the subject with representatives of air lines in London and later attended the May meeting of the International Public Health Office in Paris. He was able to present papers from Indian Research Fund Association workers on the following subjects: cholera, nutrition, quinine, post vaccinal encephalitis, the population problem, and I have been assured by the Director-General of the International Office in Paris that the papers contributed by India were received with deep appreciation, and there was no doubt that the prestige of their medical research workers stood high in international circles. That position could only be maintained by careful thought, sound judgment and hard work and I hope that it may be possible to continue to show to the world in general that India and her research workers are determined to maintain their leading place in the field of humanitarian and scientific endeavour.

LEPROSY CONFERENCE

During the year an International Conference on Leprosy had been held at Cairo and India had sent seven delegates. The report of that Conference went to show that the anti-leprosy work in India had been planned on sound lines. In September, an International Conference on Tropical Diseases, with special reference to Malaria, had been organised by the Dutch authorities at Amsterdam. The Government of India had sent two delegates, but unfortunately the international crisis in some measure detracted from what otherwise would undoubtedly have been a profitable and interesting meeting. The Government of India were also represented at the International Entomological Congress held recently in Berlin.

The Central Advisory Board of Health, would hold its next meeting in Madras on January 9 and 10. Those who were concerned with maternal and child mortality would learn with interest that the special committee appointed by the Central Board to report on Maternity and Child Welfare in India had completed its task. Many of the administrative officers who are now present would no doubt be present at the meeting in Madras and I recommend to their serious attention the Committee's report and the four memoranda which deal with the other items on the Agenda.

A PRIMARY CONSIDERATION

I would make an appeal to the younger workers that, when choosing a subject for research, they should always keep in mind the importance of its applicability to the improvement of the health of the people in India. This must always be a primary consideration with the Scientific Advisory Board in making their recommendations to the Governing Body. Scientific research is a matter to which considerable importance is attached both by Governments and the public. Their deliberations last year were the subject of wide interest and the valuable contributions made by workers in India to knowledge of disease were given much favourable comment both in the press and elsewhere. I am confident that your discussions this year would be equally helpful and stimulating.

Report of the All-India Institute of Hygiene and Public Health, Calcutta, 1937

India has still far to go before she has efficient public health organisations comparable with those of the other advanced countries and before she can reduce the great waste of life and economic and other losses due to preventable diseases. Yet, paradoxically enough, authorities both in the Provinces and States and in railways and other industrial organisations generally make insufficient use of the public health workers specially trained to suit Indian requirements.

This is made out in the annual report of the All-India Institute of Hygiene and Public Health, Calcutta, for the year 1937, just published.

The Institute has till now produced four batches of Diplomates in Public Health. An enquiry was instituted with a view to ascertaining how far India had made use of the graduates of the Institute and how they were being employed. A request was made to the ex-students to supply information regarding their employment and the nature of their duties. The response shows that about two-thirds of the graduates, which the Institute has produced since 1934, hold official positions, but that less than half are engaged in public health or research work. Most of the employees are Government servants. Local bodies and other authorities who are mainly responsible for the administration of public health, employ only a small number.

As a training centre, the Institute attracted medical men, both from Government services and from the independent profession. Students came from most of the Provinces, but because of the limited accommodation, over half the applications had to be rejected. The demand for admission from women medical graduates, however, for the diploma course in maternity and child welfare was unfortunately unsatisfactory.

In the field of research, of the problems that engaged the attention of the Institute, mention may be made of epidemic dropsy, kala-azar, mater-

nal and infantile mortality, nutrition and tuberculosis.

EPIDEMIC DROPSY

Widely prevalent in Bengal, Assam and other Provinces, the mode of causation of epidemic dropsy has so far remained unknown and treatment is also unsatisfactory. For the last three years, researches have been conducted at the Institute to find out its aetiology. Many of the current theories have been investigated critically, and the work done seems to have incriminated mustard oil as the medium by which the toxic substances responsible for the disease are taken into the human body. Attempts are now being made to isolate these toxic substances in the oil and to study their chemical and pharmacological properties. Methods for detecting the presence of these substances in suspected samples of oil are also under investigation; it is hoped that the problem of its causation will shortly be solved.

FORECASTING CHOLERA EPIDEMICS

A method of forecasting cholera epidemics which prove useful for the control of the disease has been applied by the Institute, with respect to certain areas in Bengal, not inappropriately considered to be the home of cholera. In many areas of the Province, cholera suddenly flares up into severe epidemics, but the reasons for these upheavals are not yet clearly understood. If these epidemics could be forecast with a fair degree of accuracy, it would be possible for the Public Health Department to introduce preventive measures in time and to check the spread of the disease. For, to be fore-warned is to be fore-armed.

A study has also been made of the causes of the periodic rise in malarial incidence in certain endemic areas in Bengal. It has been found that the sudden exacerbations in malarial incidence, which usually take place every five or six years, are in all probability associated with unusual rainfall in the dry months, especially February and March. If the rainfall is markedly high in the dry months, even when the total annual rainfall remains unchanged, the incidence of malarial fever may be expected to be higher than in other years. The work is of special interest as results are likely to be of great assistance in the organisation of anti-malaria campaigns.

TREATMENT FOR BLACK WATER FEVER

Black water fever, another important disease of which little is known, has hitherto defied treatment to a large extent. Researches conducted at the Institute during the past few years have not only indicated the manner in which black water fever is caused, but have also helped in the elaboration of a new line of treatment which has so far given encouraging results.

In Kala-azar, investigations are now being made into the problem of susceptibility to the disease. Kala-azar has not yet been experimentally produced in man, but man suffers from it in nature. This, it is thought, is probably due to the fact that infection results only when resistance is lowered.

MATERNAL MORTALITY INVESTIGATIONS

Investigations have also been made into the causes of maternal deaths in Calcutta. Over 90 per cent of these deaths, it has been found, were preventable, and the conclusion was reached that maternity need not be attended with such grave risks if the expectant mother could be given adequate medical supervision during pregnancy, at the time of delivery and for a few weeks following confinement. The enquiry has also revealed that one of the important causes of maternal deaths is "pregnancy anaemia". The causes and treatment of this form of anaemia are as yet little understood. Investigations are in progress for finding out the responsible causal factors and the best method of treatment.

A model maternity and child welfare centre attached to the Institute gives practical demonstrations of how maternity and child welfare work can be carried out under Indian conditions. The staff of the clinic, under the supervision of the Professor of Maternity and Child Welfare, tries to get in touch with pregnant women by house-to-house visits and teaches them healthy ways of living. Periodical examinations are made to ascertain whether any abnormal conditions exist, the babies are delivered in the homes in all normal cases, the mothers and infants are looked after and further examinations and treatment are given where necessary.

A nursery school is attached to the clinic, admission being confined to children between the ages of 2 and 5 years. A specially trained member of the staff teaches them healthy habits, discipline and sociability, while games are arranged for the development of their minds and bodies. Through the activities of the clinic and by means of special lectures and instructions in mothercraft, the Centre helps to create health consciousness amongst women.

DECLINE IN INFANTILE MORTALITY

Analysis of figures for infantile mortality shows a decline in the rate within recent years, although, as compared with those of Great Britain, the figures are still high. The problem of infantile mortality is closely related to that of infant nutrition. A beginning has been made on research into this subject.

The Nutrition Department has been conducting diet surveys amongst certain classes of people in Bengal and Assam. The diet of the Assamese coolie has been found to be poor both in quality and quantity, and particularly deficient in proteins, fat, minerals and vitamins. The heights and weights of Assamese children fall much below the normal and also below that of well-to-do groups. The diet of well-to-do residents in Calcutta has been found to compare favourably with that of European standard except that it contains an excess of fat.

The trend of population growth in India has lately come under investigation in the Statistical Department of the Institute. The studies made show that "measures directed towards the reduc-

tion of mortality will also help to lower the birth rate."

TUBERCULOSIS AND INDUSTRY

In the tuberculosis enquiry carried on in the Institute, a study is being made of the relationship of certain industries to the disease. India is becoming more industrialised and urbanised and this new factor has been held responsible for a marked increase in the incidence of the disease. The jute industry is particularly being studied with a view to finding out how far it contributes towards the spread of tuberculosis.

The work so far conducted reveals that the majority of the cases of tuberculosis in jute mills are met with among the poor classes of labourers living in ill-ventilated and insanitary tenements. The fact that susceptible persons are migrating to take up work in these industrial concerns is also held to be to some extent responsible for the severe type of tuberculosis prevalent amongst the mill workers.

MINUTES OF THE MEETING OF THE UNITED PROVINCES MEDICAL COUNCIL HELD AT LUCKNOW, ON THE 9TH DECEMBER, 1938.

1. The minutes of the last meeting of the United Provinces Medical Council held on 25th March, 1938, were confirmed.

2. Read (a) Government, Medical Department notification No. 224/V-102, dated the 28th February, 1938, re-nominating Rai Bahadur Dr. B. N. Vyas, M.B., as a member of this Council from 2nd April, 1938; (b) Medical Council notification No. 1358/LXIII, dated the 12th July, 1938 notifying the re-election of Dr. Kunj Behari Lal Varma, L.M.P., as a member of this Council from 9th July, 1938; (c) Medical Council Notification No. 1980/LXXIV, dated the 1st November, 1938, notifying the re-election of Captain Ravindranath Bose, M.B., as a member of this Council from 1st November, 1938; (d) Medical Council Notification No. 1982/LXXV, dated the 1st November, 1938, notifying the re-election of Dr. Tapeshwarnath Caul, M.B., C.H.B., as a member of this Council from 15th November, 1938; and (e) Medical Council Notification No. 2063/LXXVI, dated the 14th November 1938, notifying the re-election of Rai Saheb Dr. Ram Narain Lall, L.M.P., as a member of this Council from 15th November, 1938, and considered Dr. Indra Narain Saxena's objections, without date, to this election.

(i) RECORDED. (ii) With regard to the objections of Dr. Indra Narain Saxena the Council considered the matter and decided that the Act and the rules had not been infringed.

3. G. O. No. 3431/V-510, dated the 31st October, 1938, sanctioning payment of Rs. 3,000 as grant-in-aid to the United Provinces Medical Council for the year 1938-39 was read and recorded.

4. The statement of income and expenditure for the year 1937-38 was read and noted.

5. The budget estimates of the United Provinces Medical Council for the year 1939-40 were considered and passed.

6. Resolved that D. T. M. qualification of the Universities of London, Cambridge and Liverpool and D. T. M. & H. qualification of London University be registered as additional qualifications.

7. With reference to rules 2, 7 (2), 7 (4) and 13 of the rules relating to subsequent elections, the question whether notices be still sent to two important daily papers of the province in view of the fact that the *Leader* and the *Pioneer* have refused to publish such notifications was considered and it was resolved that the matter be put up again at the next meeting, if necessary. Meanwhile inquiries be made from other papers whether they are willing to publish, free of charge, such notifications.

8. The order of the President, dated the 11th November, 1938, to the effect that in future Bank's "pay in" slips should be used instead of the cheques of the Medical Council, was read and recorded.

9. G. O. No. 1270 V-284, dated the 22nd June, 1938 (refusing sanction to biennial publication of the List of Registered Medical Practitioners) was read and it was resolved that the Government be requested to reconsider their decision in view of the difficulties experienced by all concerned.

10. Resolved that the name of Dr. Elizabeth Pitani, L.M.P. (Registration No. 2015) be restored to the medical register.

11. Resolved that the name of Dr. Kushla Nand Gairola, M.D. (Vienna) be registered.

12. The application for registration, without date, of Dr. Mukand Swarup Verma, M.B., B.S., Lucknow, 1922, who, contrary to the views of this Council, is engaged in teaching surgery in the Ayurvedic College of the Benares Hindu University, was considered and it was resolved that information regarding the practices obtaining in this respect in other provinces should first be obtained and then the matter be thrashed out and considered by the Standing Committee.

13. Read the report of the Standing Committee, which met on 18th October, 1938, to approve their recommendations.

Recommendation No. 1.—It was decided that necessary inquiries should be instituted in this case. The President to direct the Registrar to take necessary steps for instituting the inquiry. Carried.

Recommendation No. 2.—Approved.

Recommendation No. 3.—Accepted. It was further resolved that Dr. Mohan Lal should be informed that he should ask the persons organizing blind relief camps not to advertise his name, but merely mention, if necessary, that the operations will be performed by a duly qualified doctor.

Recommendation No. 4.—Accepted.

14. The members of the Standing Committee for the year 1939 were appointed.

15. Letter No. 12086, dated the 28th September, 1938, from the Inspector-General of Civil Hospitals to the Director of Public Health, United Provinces, (on the subject of reporting of infectious cases) was read and the question whether the registered medical practitioners be requested to report all infectious cases as required by section 279 of the Municipalities Act was considered.

Resolved that the matter should be dealt with by the Public Health Department and the local boards.

16. Resolved that the following be added as instruction No. 7 at the foot of the voting paper:

"7. The voting paper should be returned in the envelope supplied herewith or the words 'VOTING PAPER' should be clearly written in red ink at the left-hand top of the cover in which the voting paper is sent. Failure to do so will result in the voting paper being rejected."

17. The following amended resolution was carried by a majority:

"This Council recommends to the Government that the University of Lucknow Act be so amended if

necessary, as to allow medical licentiates to appear for M.B., B.S. examination of the University on conditions similar to the University of Madras."

18. The following amended resolution was carried: "This Council recommends to the Government to raise the Agra Medical School to the University standard so as to bring it within the purview of the Indian Medical Council."

19, 20, and 21. Not moved due to the absence of the mover.

SERVICE NOTES

TRANSFER & LEAVE OF SUB-ASSISTANT SURGEONS, PUNJAB, DURING NOVEMBER, 1938

- Dr. Mohd. Zaka Ullah, Civil Hospital, Rawalpindi, granted one month's leave.
- .. Radha Krishan, Civil Hospital, Amritsar, granted one month's leave.
- .. Sohan Lal Mohan, temporary, Civil Hospital, Ambala, to Civil Hospital, Jagroan.
- .. Bal Mokand, Civil Dispensary, Lahore, to Mayo Hospital, Lahore.
- .. Faqir Chand Bharbhakar, City Branch Dispensary, Ludhiana, to Civil Hospital, Jullundur.
- .. Mukhtar Ahmad, temporary, Police & Sub Jail Hospital, Gujrat, to Civil Hospital, Gujrat.
- .. Mukhtar Ahmad, temporary, Civil Hospital, Gujrat, to Government Engineering School Dispensary, Rasul.
- .. Rashid Ahmad Khan, temporary, Civil Dispensary, Lahore, to Mayo Hospital, Lahore.
- .. Tuls Das Mehtani, on return from leave, Civil Hospital, Multan.
- .. Charan Das, Canal Dispensary, Muzaffargarh, granted 2 months extension of leave on medical certificate.
- .. Parma Nand Lulla, on return from leave, to Civil Hospital, Mianwali.
- .. Kishore Chand, on return from leave, Civil Hospital, Amritsar.
- .. Maula Bakhsh, on return from leave, to Musakhel Dispensary, Mianwali District.
- .. Atta Mohd. Khan, Musakhel Dispensary to Civil Hospital, Mianwali.
- .. Shiv Ram Das, on return from leave, to Pind Bhatian Dispensary.
- .. Sham Singh Bedi, Tarkhani Canal Dispensary, to Dalhousie Dispensary.
- .. Faqir Mohd. Awan, temporary, Civil Hospital, Amritsar, to Dera Baba Nanak Dispensary.
- .. Piara Singh, Civil Hospital, Amritsar to Sahiana Dispensary.
- .. Harjas Rai Datta, Civil Hospital, Gurdaspur, to Jarranwala Dispensary.
- 1st Class Senior Dr. Rahmat Ullah, Jarranwala Dispensary, to City Branch Dispensary No. 1 Rawalpindi City.
- Dr. Waleyat Shah 2nd Class Senior, City Branch Dispensary, No. 1 Rawalpindi City, to Qilla Gujranwala Dispensary, Lahore.
- .. Hazara Singh, Mayo Hospital, Lahore, to Jaijon Dispensary.
- .. Bhagwan Das Mongia, Civil Hospital, Lyallpur to Muridwala Dispensary.
- .. Chandar Bhan Ahuja, Muridwala Dispensary, to Kaithal Dispensary.
- .. Manohar Lal Kapur, Kaithal Dispensary, to in-charge Eye Section, Civil Hospital, Karnal.

- Dr. Nanak Singh Sehgal, 2nd Class Senior, Mayo Hospital, Lahore, to Shahkot Dispensary.
- .. Faqir Chand, Civil Hospital, Hoshiarpur, to Balachaur Dispensary.
- .. Wali Mohd., Balachaur Dispensary, to Samunduri Dispensary.
- .. Parkash Chandra, Civil Hospital, Gujranwala, to Vanike Dispensary.

TRANSFER & LEAVE LIST OF P.S.M.S. OFFICERS, U.P., DURING NOVEMBER, 1938

- Dr. Vijai Pal Singh, Reserve duty, Bulandshahr to R.D. Bijnor.
- .. Shiva Dutta Joshi, Reserve duty, Naini Tal, to R.D. Bareilly.
- .. Jiwa Nand Pant, Reserved duty, Naini Tal, to Central Jail, Agra.
- .. P. K. Bhattacharji, Central Jail, Agra to R.D. Agra.
- .. Anand Swarup Attrey, Reserve duty, Gonda, to Colonel Ganj.
- .. Sangam Lal Kapoor, Colonel Ganj, to Central Jail, Lucknow.
- .. Waliuddin, Central Jail, Lucknow, to Police, Lucknow.
- .. Mohd. Irtiza Khan, Police, Lucknow, to Dudhi.
- .. Mangal Sen Wohra, Dudhi, (retired).

ASSOCIATION NOTES

[Proceedings of meetings refer only to the All-India Medical Licentiates' Association unless otherwise stated.]

Mymensingh (Bengal). Meeting held on 23-10-38.

Resolved that the President of the Branch should approach the M.L.A.'s of the district and request them to move the resolution contained in the G. Secretary's circular No. 26 dated 15-10-38 and see that it is passed in the coming session of the Council.

This Branch further resolves that it wholeheartedly supports the idea of approaching the representatives of the Indian insurance companies (through a special sub-committee) for enhancement and uniformity of the rate of fees for examining proponents.

1-11-38. Considering the present position of the country in general and the medical education in particular this Branch is of opinion that there should be one uniform standard of medical education throughout the country and under the Universities as recognised by the Indian Medical Council and this should be introduced as early as possible in all the medical institutions of India.

Resolved that the copy of the above resolution be forwarded to the Director General, I.M.S., New Delhi for favour of consideration with reference to the coming Govt. conference for uniform standard of Medical Education in India.

Jorhat (Assam). Meeting held 17-10-38.

Secretary read the annual report for the year 1938 and was accepted by the meeting.

Read letter of Dr. S. K. Sen, declining to attend the Gauhati conference as a delegate for unavoidable cause. Dr. K. Ali Hazarika also declared his inability to attend the said conference on account of his son's marriage at that time. Resolved that Dr. R. C. Dey is elected as delegate of above Branch to attend the A.I. conference at Gauhati, and in case if he fails to attend Lady Dr. Miss Bertha Zillie will attend as delegate.

Dr. Himmat Singh Grewal, Police, Saharanpur, to sub-charge, Moradabad.

- .. Chandrika Prasad Misra, leave, to Police Saharanpur.
- .. Ambika Prasad Sinha, Sub-charge, Moradabad, granted leave.
- .. Ali Abdulla Jafri, Hasan Ganj, to Jail & Police, Shahjahanpur.
- .. Azizul Hameed, Jail & Police, Shahjahanpur, to Hasan Ganj.
- .. Jalish Ahmed Qureshi, Reserve duty, Jaunpur, to Machlishahr.
- .. Mathura Prasad Tewari, Machlishahr, granted leave.
- .. Radhey Lal Mathur, Muhunadi, leave 1½ months, 21-11-38 to 4-1-39.
- .. A. B. Lal Endlaw, Konch, leave 15 days, Ex.1 month, 8-11-38 to 22-12-38.
- .. Ambika Prasad Sinha, Moradabad, leave 2 months, 29-11-38 to 28-1-39.
- .. Kunwar Lal Sahi, Bela Harraia leave 15 days, 26-11-38 to 10-12-38.
- .. Bhagwat Prasad Srivastava, Korihar, leave 2 months, 2-12-38 to 1-2-39.
- .. Hari Shanker Bhatia, Hazratganj leave 1 month, 10-11-38 to 10-12-38.

The following office-bearers have been elected for the year 1939 from January to December: Dr. A. Hakim—President, K. Ali Hazarika—Secretary, S. K. Sen and Lady Dr. B. Zillie—Jt. Asst. Secretaries, R. C. Dey—Auditor.

Read letter No. 1639-R.C.G. 38 of 7-10-38 from G. S. Das, General Secretary, Reception Committee, Gauhati and noted the contents.

Dr. R. C. Dey related about a dozen cases of food poisoning after a feast which simulated malaria, dysentery and chronic diarrhoea.

Mussoorie (U.P.) Meeting held on 26-10-38.

R. S. Dr. Ram Narain Lal was elected unanimously to the chair.

Read Prov. Secretary's circular No. 9 dated 17-9-38 and resolved that necessary action be taken.

Resolved that R. S. Dr. R. N. Lal be elected as delegate of the above Branch for the forthcoming annual conference at Gauhati.

Read circular No. 26 dated 15-10-38 of the General Secretary and resolved that Dr. Jawahar Lal, M.L.A. be requested to move in the next session of the U. P. Assembly the resolution No. 2 of the Standing Committee meeting of 1-10-38 at Delhi, regarding medical school education.

Dr. B. C. Dan's resignation from presidentship owing to his leaving the station, read and recorded.

Resolved that the following office-bearers be elected: Drs. Pratap Singh—President, Miss M. M. Singh—Vice-President, J. R. Goyal—Secretary.

Bareilly (U.P.). Meeting held on 28-10-38.

This Branch approved the resolution No. 2 of the S. C. meeting held at Delhi on 1-10-38, regarding medical school education.

Ludhiana (Punjab). Meeting held on 1-11-38. Read G. S. circular No. 30 (urgent) dated 25-10-38, and resolved that this Branch is of opinion that the time has come when there should be an uniform minimum standard of medical education in this country and that this Branch strongly favours one type of medical education through the

OBITUARY

We regret to record the death, on 4th January 1939, of Dr. S.L. Sharma of Aligarh. Despite his chronic invalidism due to gout, he was taking an active interest in the work of the All-India Medical Licentiates' Association. We offer our heart-felt condolences to the bereaved family.

[Ed. I. M. J.]

universities in preference to the multi-diploma system as prevalent in the United Kingdom.

Montgomery: (Punjab) Meeting held on 30-10-'38.

Resolved that this Branch requests the Government of India conference on Medical School education to be held at Delhi in November '38 to recommend to introduce a uniform minimum standard of medical education as recognised by the Indian Medical Council in all the medical schools in India, and in the event of this being impracticable, our representatives should ask for the acceptance of the university degree course, rather than support the continuance of the present dual system of education with some improvements. Copy of the above be forwarded to the Director-General, I. M. S. New Delhi for information.

Aligarh: (U. P.) Meeting held on 2-11-'38.

This branch approves the resolution No. 2 of the S. C. meeting held at Delhi on 1-10-'38, regarding medical education.

Decca: (Bengal) Meeting held on 2-11-'38.

That the minimum qualifications for medical education in all medical institutions throughout India should be uniform as recognised by the I. M. Council. Regarding the acceptance of the University degree course or the continuance of the present dual system of medical education with necessary improvements this House strongly supports the University degree course.

Burdwan: (Bengal) Meeting held on 3-11-'38.

The members deeply mourned the sad demise of Drs. Kori Ganguli and Bhupendra Nath Banerjee. The void caused by Dr. Ganguli's death, who was an ardent worker of the Association, will be very difficult to fill up in the near future. The members passed the condolence resolution, standing insilence.

Read and confirmed the proceedings of the last meeting held on 20-9-'38.

Read and considered the circular letter No. 26 dated 15-10-'38 from the General Secretary, A. I. M. L. A. Resolved that Messrs Kumar U. C. Mahatab, A. Hassan, Khan Bahadur A. Ahmed and Dr. P. N. Banerjee be approached by letter with reference to this circular letter to move the matter in the Provincial Council and Provincial Assembly.

Read and considered circular letter No. 27 dated 15-8-'38 from the G. S. and resolved that the branch approves the item underlying the resolution of the I. M. A. with reference to the matter.

Unanimously resolved that this branch urges on the Government of India Conference on Medical School Education to urge for an uniform minimum standard of medical school education, as recognised by the I. M. C., and to advise abolition of such of the schools which could not be brought up to that standard.

The contingency bills for the month of September and October '38 amounting to Rs. 1-13-3 and Rs. 0-9-0 respectively be passed.

Silchar (Assam): Meeting held on 5-11-'38.

Following resolutions were passed for moving in the A.I.M.L.A. Conference to be held at Gauhati in December 1938.

Resolved that this Branch urges the Government to adopt one uniform standard of medical education throughout India, registrable by the Indian Medical Council.

Resolved unanimously that the authorities be moved to fix the scale of pay of our fellow-brothers employed in the tea estate in the province of Assam according to the scale sanctioned for the Government S.A.S. with an adequate compensatory allowance for loss of their private practice.

Resolved unanimously that Drs. K. Purkayastha and D. N. Chakraborty be elected as delegate for the ensuing sessions of the A.I.M.L.A. Conference to be held at Gauhati. Both the doctors failing to attend, Drs. U. K. Mazumdar and G. M. Aditya be requested to attend the same in their place.

Resolved unanimously that Dr. K. Purkayastha, Branch Secretary, and Dr. U. K. Mazumdar, D. T. M., be elected to represent this Branch in the Provincial Standing Committee.

Resolved that the following members be elected as office-bearers of the Provincial Standing Committee as follows: Drs. P. C. Das—President, R. M. Kar and M. Barooa—Vice-Presidents, B. B. Sengupta—Secretary, S. C. Chakraborty—Treasurer, Md. Easin Ali—Auditor.

The budget for the next year be passed as follows and General Secretary be requested to incorporate the same in the All-India budget: Expenditure: contingency Rs. 50, and Propaganda Rs. 50.

This Branch thanks Dr. A. N. Bhattacharjee of Gauhati for kindly attending the meeting on invitation.

Bilaspur (C.P.): Meeting held on 30-10-'38.

Reference the non-recognition of the licentiates by the Indian Medical Council:

Resolved that the President of this Branch be requested and deputed to approach the three local M.L.As: Mr. Chhedital, Bar-at-Law, Mr. R. G. Tiwari, Mr. A. Saiga, and request them to move a resolution in the C.P. Legislative Assembly in the coming session so that the resolution in question be passed in the Assembly and that they should also be supplied with the relevant papers. It is further resolved that this Branch fully approves of the resolution in question as suggested by the G.S.

Resolved that this Branch unanimously supports the resolution passed by the Central Council of the I.M.A. on 22-9-'38 and requests the General Secretary, A.I.M.L.A. to move the I.M.A. to kindly see that the passing of such a resolution does not come in the way of licentiates from enjoying their share of cases which they are getting at present from the insurance companies of India.

Resolved that this Branch do approve of the resolution No. 2 of the Standing Committee meeting held on 1st October '38 on medical school education.

Amritsar (Punjab): on 4-11-'38, meeting was held.

Read and considered Circular No. 26 dated 15-10-'38 from the General Secretary. Resolved that the Provincial Secretary be requested to seek the help of R. B. Dr. Mathuradas, in doing the needful at Lahore, in the forthcoming session of the Punjab Assembly.

(1) That this Association endorses the view of the I.M.A. as expressed in circular No. 27 of the General Secretary.

(2) That the proposed sub-committee be requested to see that the licentiates are given adequate share of examinations.

(3) That this Branch approves of the resolution passed by the Standing Committee meeting held on 1st October '38 on Medical School Education.

That copies of above resolution be submitted to the D.G., I.M.S., I.G.C.H., Punjab, and Major S. M. K. Malik, I.M.S., Principal, Medical School, Amritsar, Punjab.

Chittagong (Bengal): Meeting held on 20-9-'38.

Unanimously resolved that this meeting is strongly of opinion that there should be a uniform standard of medical education all over India recognisable by the Indian Medical Council.

1-11-1938. Proceedings of the last meeting was read and confirmed.

Circular No. 26 dated 15-10-'38 from General Secretary was read and resolved that a deputation consisting of the following members should wait upon the M.L.As. of Chittagong after appointing dates from the honourable members: Drs. D. C. Chanda—Chairman, D. C. Das Gupta, A. Quasem, D. B. Das, and S. B. Ghose.

Circular No. 27 dated 15-10-'38 from the General Secretary was read. This Branch approves the resolution No. 2 of the Standing Committee meeting held at Delhi on 1-10-'38, regarding medical education.

Resolved that the Secretary be requested to send a copy of the above resolution to the Director-General, Indian Medical Service, New Delhi.

Midnapore (Bengal): Meeting held on 2-11-'38.

Dr. K. N. Chaudhury was elected to the chair.

Read the notice convening the meeting. Minutes of the last meeting were read and confirmed.

The postal and miscellaneous account of the Branch for the months of September and October 1938 amounting to Rs. 8-9-0 were before the meeting and after thorough scrutiny were unanimously passed.

This Branch approves the resolution No. 2 of the Standing Committee meeting held at Delhi on 1-10-'38 regarding medical education.

Treatment of malaria in all its details was discussed at great length with special reference to parenteral use of quinine and atabrin in pernicious malaria. A comparative value of quinine and atabrin as therapeutic agents with regard to their curative and anti-relapsing properties was

also drawn by the members in the light of their respective experience and it was gathered that atabrin decidedly held a superior place to quinine in all respects as an anti-malarial remedy in the treatment of M.T. infection.

Karachi (Sind): Meeting held on 6-11-'38.

Following office-bearers were elected unanimously: Drs. R. A. Amesur—President, K. Tarabai—Vice-President, Thakurdas K. Babur—Hon. Secretary & Treasurer. Members of the M. Committee: Drs. A. Said, P. P. Lalvani, C. D. Punjabi, D. H. Jhalla and Adalja.

It was proposed that Dr. Rochiram A. Amesur be elected as a delegate to attend the conference at Gauhati.

It was further unanimously resolved that if the President considered it necessary to invite the Conference to Karachi in the month of December 1939, he is empowered to do so.

Habli (Bombay): Meeting held on 13-11-'38.

Resolved that Dr. N. S. Gore shall represent the above Branch at the A.I.M.L.A. Conference to be held at Gauhati on 24-12-'38.

Resolved that Drs. V. G. Joshi and N. S. Gore shall continue their memberships of the Standing Committee of the A.I.M.L.A. Association for the year 1939-40.

It will be difficult to estimate the expenses for the ensuing year. We have practically spent nothing excepting the expenses for the postage.

Gwalior: Meeting held on 2-4-'38.

Proceedings of the last meeting were read and confirmed.

Resolved that this Branch expresses its deep sense of grief at the sad demise of Dr. M. B. Savarkar, a member of the Association on 4-3-'38 and prays the Almighty to give peace to the departed soul and consolation to the bereaved family.

3-4-'38. Following office-bearers were elected for the year 1938-39: Drs. Laxminarayan Shrivastava—President, C.R. Gupta—Vice-President, M. D. Pustake—Secretary, Singhal and Varma—members of the Managing Committee.

The question of licentiate course was discussed and it was resolved that the scheme put up by the Minister of Public Health, Madras, be approved.

Amraoti (C.P.): Meeting held on 19-11-'38.

Resolved unanimously that the following office-bearers be elected for the year 1939: Drs. S. H. Kulkarni—President, J. W. Watwe—Vice-President, B. J. Bansod—Secretary, S. T. Kulkarni, K. S. Pawade and D. K. Amin—Members of the M. Committee.

Provincial Committee members: Dr. B. J. Bansod, K. S. Pawade.

Delegate for the Gauhati conference: Dr. B. J. Bansod or Dr. J. W. Watwe.

This meeting congratulates Dr. K. S. Pawade for winning the "Ramachandra Aiyer" prize for writing the best essay on cholera for the year 1937.

Resolved that a memorandum be submitted to the Hon'ble Minister in charge of Medical Administration and the Inspector-General of Civil Hospitals to extend the period of nomination of candidates to the C.P. Medical Council as the publication of the notification in the Gazette was not given wide publication and as most of the practitioners were not in the know of it, and thus the intending candidates could not apply for nomination within the prescribed time. Under these circumstances this Association prays and requests the Hon'ble Minister to extend the period of nomination and to announce a fresh date for filling nomination papers, so that deserving aspirants may get the opportunity and contest the elections.

Calcutta, 18th March 1938. A general meeting was held at 69/1, Serpentine Lane, Calcutta.

Dr. A. K. Roy Choudhury informed the house that some of his friends were contemplating to start a medical club for developing the social spirit of the members and they would be glad to merge their club with the A.I.M.L.A., Calcutta Branch, if the Association could accommodate to have social gatherings, sports, library and other amenities independently of the control of the A.I.M.L.A. Drs. A. D. Mukherji, A. N. Roy, A. M. Malik, K. P. Sen and S. L. Roy took part in the proposal moved by Dr. A. K. Roy Choudhury and were of opinion that the club should have no separate entity but that it should be the part and parcel of the Association and that the management of the different sections could be placed in the hands of sectional secretaries who should be under the control of the Managing Committee of the

A.I.M.L.A. and should be ex-officio members of the Committee. As to the details regarding the extra subscriptions, disbursement of money etc., they suggested that the Managing Committee should frame rules and regulations for the management of different sections attached to the Association. The following office-bearers were elected:—

President.—Dr. Mrs. N. B. O'Brien, Vice-President, Dr. A. D. Mukherji—Jt. Hony. Secretaries:—1. Dr. A. N. Roy, 2. Dr. A. M. Mallik. Hony. Treasurer:—Dr. A. K. Roy Choudhury.

Sectional Secretaries:—

1. Dramatic Section—Dr. S. Banerjee, 2. Games—(a) Out-door—Mr. S. Basu (Medical student), (b) Indoor—Dr. A. Gupta, 3. Social Section—Mr. Salil Datta (Medical student), 4. Library Section—Dr. Naren Gupta, 5. Service Section—Dr. Satyen Roy.

Members of the Managing Committee:—Drs. S. L. Roy, K. P. Sen, S. N. Datta, Rai Sahib Dr. P. C. Roy, and K. C. Choudhury.

28th March, 1938. A meeting of the Managing Committee was held at 69/1, Serpentine Lane, Calcutta.

Resolutions:—1. Resolved that a sub-committee consisting of Drs. A. D. Mukherji, S. N. Datta, and S. Banerjee be formed to find a suitable house for the Association and final decision regarding the house in question be arrived at in the next meeting to be called after getting the views of the sub-committee.

2. In connection with the Indian Medical Council Act Amendment Committee, Dr. A. N. Roy informed the house that he was asked by Rai Sahib Dr. P. C. Roy to call a meeting for the purpose as Dr. P. C. Roy was informed by some members of the said Committee that a draft amendment will be soon prepared and it was time that the medical licentiates should send their views to the committee. The Hony. Secretary was authorised to inform the members of the said committee to make provision for inclusion of medical licentiates in the Indian Medical Council, to raise the standard of education in medical schools in conformity with the recommendations of the Indian Medical Council and to change the preamble of the said Council from Indian Medical Council for higher education to Indian Medical Council with deletion of the words "higher medical education."

15th April, 1938. A meeting of the Managing Committee was held at 69/1, Serpentine Lane, Calcutta.

Resolutions:—1. Dr. A. N. Roy proposed that the Provincial Secretary be requested to apportion money from the budget for propaganda for reorganising this branch, and the money thus obtained be spent to meet all the medical licentiates of Calcutta in a social with an appeal to enlist themselves as members of the Association and contribute extra subscriptions for the maintenance of a house with social, literary and other amenities. The proposal was unanimously accepted and Dr. Roy was authorised to write to the Provincial Secretary accordingly.

2. Drs. S. N. Datta and S. Banerjee of "House Committee" informed the house that a house at 107, Lower Circular Road had been hired for the Association at Rs. 35 per month from May, 1938. Dr. A. N. Roy proposed that final decision about the house be made in the next meeting as it was a question to be considered whether the Association could spend Rs. 35 monthly. Dr. K. P. Sen said that as the House Committee was authorised to hire the house, they had to sanction the proposal and then exert themselves to raise money for the purpose. Recommendations of the House Committee were approved.

3. The following budget was then passed for the year 1938-39:—

Recurrent expenditure:—

	Rs.	A.	P.
House rent	35	0	0
Electricity	10	0	0
Boy servant	3	0	0
Newspaper	2	0	0
	Rs. 50	0	0

per month.

Capital expenditure:—

Purchase of some furniture...	Rs.	A.	P.
Postage etc.	30	0	0

Rs. 60 0 0

Total:—

Recurrent expenses	Rs.	A.	P.
Capital expenditure and Postage	600	0	0

Rs. 660 0 0

14th May, 1938. A general meeting was held at 107, Lower Circular Road, Calcutta.

Resolutions:—

1. Resolved that the budget as framed by the Committee be sanctioned.
2. The Hony. Secretaries be authorised to draft an appeal which be printed and sent to all the medical licentiates practising in Calcutta.

14th June, 1938. A general meeting was held at 107, Lower Circular Road, Calcutta.

Resolutions:—1. Resolved that Dr. A. D. Mukherji be elected to preside over the Annual Conference at Gauhati.

2. That Dr. A. N. Roy be elected Provincial Secretary for the next year.

3. That other items on the agenda be considered at the next meeting.

22nd June, 1938. A general meeting was held at 107, Lower Circular Road, Calcutta.

Resolutions:—Drs. K. P. Sen proposed that as there is sufficient time left for election of delegates and as the medical institutions were closed for summer vacation, the selection of delegates and drafting of resolutions be made in a subsequent meeting.

Dr. A. N. Roy then proposed that as the branch has hired a house with a view to reorganise the branch on a sound basis and as the house rent for two months is outstanding every individual member should endeavour to enlist large number of members to the Association. He requested the house to fix up a date when all the medical licentiates could be invited in a social gathering to muster strong under the banner of the Association. Any Sunday either in the first or second week of June was selected for calling a meeting of the medical licentiates.

10th July, 1938. A meeting of the medical licentiates of Calcutta and its suburbs was held on the 10th July, 1938, at 107, Lower Circular Road, Calcutta, with a view to propagate the objects of the All-India Medical Licentiates' Association amongst the medical licentiates of Calcutta requesting them to enlist themselves as members of the Association. Dr. A. B. Mukherjee, the Provincial Secretary, presided. Dr. A. N. Roy, the honorary Secretary in explaining the objects for which the meeting was called, narrated the manifold activities that the Association had been doing for the cause of medical licentiates of India and requested every member to become member of the Association. He also requested the members to reorganise the Calcutta Branch by contributing more monthly subscriptions so that under this organisation there could be established libraries, reading rooms, indoor games, etc. Dr. A. D. Mukherjee requested the members to contribute Re. 1 per month for making the branch more lively as the balance of Rs. 8 that would be kept for the branch organisation after sending the quota of Rs. 4 for mother Association, could well be utilised for the maintenance of library, reading room, indoor games and social as suggested by Dr. A. N. Roy. Drs. N. Choudhury and S. C. Roy thanked the Secretaries for their new ideas and encouraged them by their support and Dr. N. Choudhury in addition suggested that as the medical library is a scientific library, it would be worth paying if the scientific research committee of the Association contributed some part of the expenses of the library.

The President before concluding the proceedings said that in spite of many works done by the Association, the Association failed to bring about an amendment of the Indian Medical Council Act which made the medical licentiates

untouchables before the medical profession and this Act was a slur on the Indian medical profession. He appealed to the members to organize and help themselves as no outside power would come to their help if they themselves did not try to remove the manifold obstacles that stood in their way.

Tea and light refreshments were served to all the members present. Dr. A. N. Roy then appealed to the members to start a nucleus of library fund by contribution of some donation in the meeting and some members promised to contribute subscriptions for the said object.

Proceedings:—

1. Dr. A. D. Mukherjee's name was proposed for the Presidentship of Gauhati Conference from the chair and was unanimously carried.

The following members were elected delegates to attend the Gauhati Conference:—

Drs. A. M. Malik, A. N. Roy, E. Ahmed, and S. C. Roy.

2. Resolved that a sub-committee consisting of Drs. A. D. Mukherji, A. N. Roy, A. M. Malik, S. L. Roy, U. R. Banerjee, be formed to formulate the resolutions to be placed before the annual conference at Gauhati and the resolutions framed by the committee be approved in a next general meeting.

3. Dr. A. N. Roy placed the financial condition before the members and said that if the monthly subscription of Re. 1/- per month be not regularly given by the members, it would be difficult to clear up the house rent. He said that already a deficit account is running since the branch hired the house.

Dr. A. D. Mukherji proposed that every member should promise to enlist at least 5 members who would regularly subscribe Re. 1/- per month and in case of failure he himself would contribute Rs. 5/- in its lieu and the following members volunteered to enlist five members according to the suggestions of Dr. Mukherji:—

Drs. A. D. Mukherji, A. N. Roy, S. Banerjee, E. Ahmed, and A. M. Malik.

4. Dr. A. N. Roy was authorised to appoint a man on Rs. 10/- per month or less if available to collect subscriptions from the members regularly.

23rd July, 1938. A meeting of Resolution Sub-committee was held on 23rd July, 1938, at 107, Lower Circular Road, Calcutta. Drs. A. D. Mukherji, A. N. Roy, and U. R. Banerjee were present.

Resolutions:—

1. Resolved that the course of education in the medical schools be so reconstituted as to meet the demands of the Indian Medical Council and that there be a uniform standard of medical education in all the provinces of India to be recognised by the Indian Medical Council.

2. In consideration of the fact that there is no dearth of medical men nowadays, execution of service bond by medical licentiates going in for Government service be not continued any more.

3. That the Government of India be requested to give facilities to medical licentiates to go in for the Maternity and Child Welfare diploma course opened in the All-India Institute of Hygiene and Public Health at Calcutta, that in the opinion of this house the Government has done a great injustice to the largest medical group and to the public at large in depriving the medical licentiates of the benefit of this course who cater to the needs of the largest section of people in India.

4. That interests accruing from the money accumulated for scientific research fund be spent in giving scholarships to members of the Association doing original research work in any research institution.

Resolved further that in the opinion of this house the sum of Rs. 10000/- earmarked for scientific research work is too meagre to help scientific research work of high standard and it be resolved that a sum of Rs. 20,000/- be earmarked for scientific research work so that members of this Association may do good original research work out of the interest of this sum.

(To be continued)



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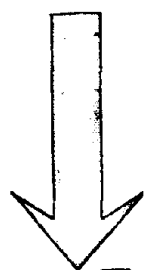
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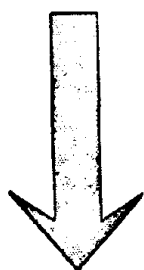


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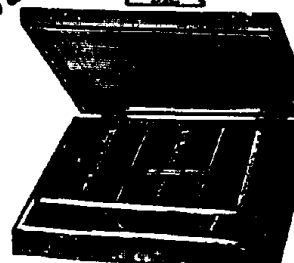
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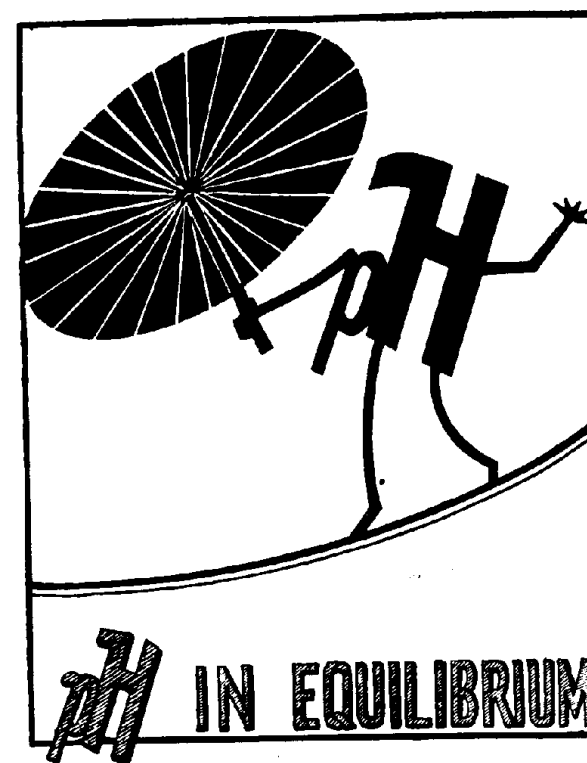
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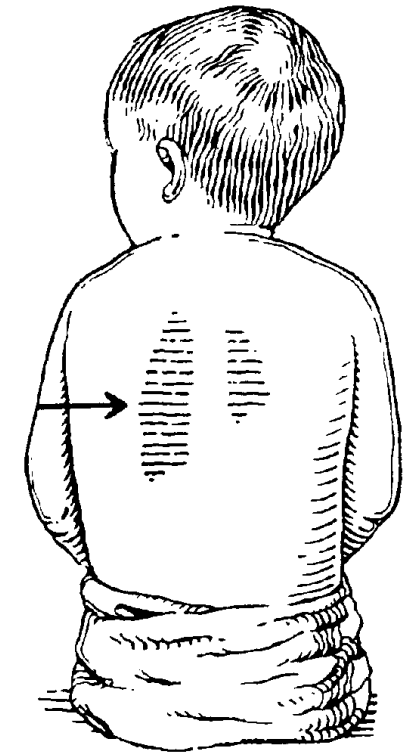
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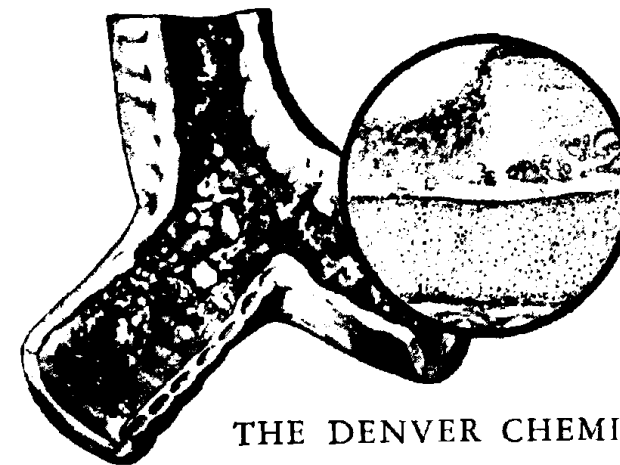
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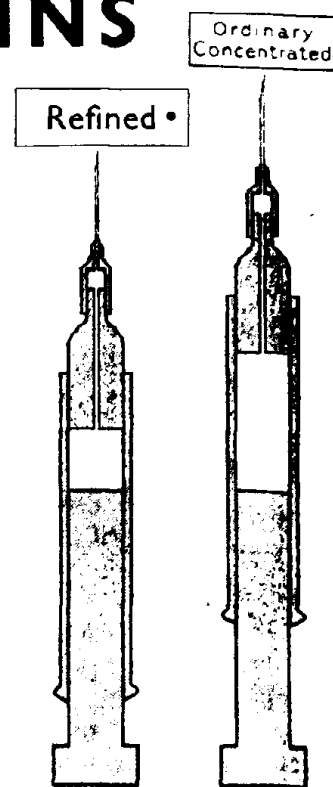
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ADDRESSES AND ARTICLES

Cataract from the General Practitioner's Point of View*

• Dr. Chaman Lal Sharma, L. S. M. F.,
Medical Officer, Garhdiwala Civil Dis-
pensary, Dt. Hoshiarpur, (Punjab)

I must explain to you the reasons that led me to choose "cataract", of all the subjects. Of course numerous other subjects, more familiar to general practitioner like myself, could have been handled, perhaps, with better results than the present one. But the subject chosen should be one in which the contributor must feel specially interested and should have practically handled a large number of such cases and could materially give some practical hints from his experience in that line. And who can deny the fact that the general practitioner equipped with little extra alertness, keenness and common-sense can more usefully contribute to the advancement of scientific knowledge from his experience at bed-side than a budding research worker? The general practitioner with the above-mentioned qualifications soon gains his ground as a specialist after having handled numerous cases of a certain disease. It is here that he comes in the field like a true research worker benefiting humanity and science by his useful contributions. To come to my point, I submit that the "eye work"—and this refers solely to cataract—once the monopoly of a few specialists, is now coming to be regarded as common place subject by the general practitioner and is being practised in a large number of our dispensaries in the Punjab. The high percentage of good results, the simplicity of the technique, the little labour and assistance it demands and the material benefit occurring from successful practice—all these factors combined have brought this subject within the range of every general practitioner. And no other branch of Western medical science with its improved technique has been more successful and blessed than cataract treatment.

The crystalline lens is not prone to many diseases, and practically the only condition which is met with in an eye that has not been injured by trauma or disease is that in old age, in some people, the lens becomes gradually

opaque. This condition then is known as cataract.

The lens is enclosed by a thin transparent membrane which is formed with capsule of lens. So long as the capsule is in tact aqueous cannot come into direct contact with lens surface, but if the capsule is injured the aqueous then comes in contact with the lens substance and makes it swell up and become opaque.

There are two varieties of cataract: complete and incomplete. The complete variety is made up of senile, congenital, diabetic, and black cataracts. The incomplete variety is made up of central, lamellar or zonular, anterior polar, and post-polar cataracts.

Of all these cataracts the commonest is senile, in people after the age of 45 years usually. Cataract may be primary or secondary. Primary means cataract occurring in an eye which is otherwise healthy. Secondary cataract means that it is brought about by some disease or other of the eyes.

Various theories are advanced about the formation of cataract in a healthy eye. But no definite cause has yet been fully known. Cataract means opacity either of the lens or of lens capsule. Cataract of the lens substance is thought to be due to degenerative changes while opacity of the capsule is due to proliferation of its epithelium.

Various pre-disposing causes are: (1) Age: Senile cataract, the commonest variety, generally starts after the age of 40, but it may be found as early as 35 years of age. The incidence of cataract at this time of life can be attributed to the general degenerative changes in the whole system in which the lens also get involved. But why cataract does not develop in every individual bordering 45 or in latter years has not been yet satisfactorily explained. Of one hundred old persons between the ages of 50 to 60 examined by me in an outlying dispensary 63 were found to have a cataract in one stage or the other:

(a) Both eye cataract - complete mature - 28

(b) One eye cataract - in various stages - 35

The rest, that is 37, even on thorough ophthalmoscopic examination, did not show any traces of the lens.

(2) Social status: Most of the cases of senile cataract come from the people of lower classes obviously due to lack of proper nourishment and good food. Lack of vitamin C is the latest theory.

(3) Psychological factors and general diseases: Worry, grief and shock are decidedly pre-disposing factors and history of most of the cataracted persons thoroughly corroborates

*A paper read at a meeting of the Hoshiarpur Branch of the A. I. M. L. Association.

the above assertion and they usually can date the exact time when after sudden grief they noticed gradual diminution of vision. Cataract noticed in persons in affluent circumstances can be attributed to various other causes as nephritis, gout and general arterial diseases like arterio-sclerosis, etc.

(4) Climatic conditions: Most of the cataract cases are derived from the tracts with hot and dry climates and the comparative statistical figures show that India and other tropical countries exhibit greater cataract incidence than the temperate and cooler countries like England, etc. Why the heat should predispose to cataract formation may be explained by the fact that it leads to lowering of general resisting power of the body. Long continued exposure to light and heat, as in glass blowers, etc., is an important cause of cataract formation. It has also been observed that cataract incidence is greater along the coastlines where the people are greatly addicted to fish eating.

(5) Condition of the eyes: Certain conditions as ulcerative keratitis, iridocyclitis, choroiditis and errors of refraction as high grades of myopia and hypermetropia predispose to cataract formation.

(6) Heredity has some influence.

(7) Traumatic: on injury to the capsule, aqueous comes in contact with lens surface and makes it swell up.

SIGNS AND SYMPTOMS

In very early stages the lens, to all outward appearance, looks quite transparent and consequently the pupil is black. But if the pupil is now dilated and the periphery of the lens examined through ophthalmoscope, faint spoke shaped opacities may be seen. The whole of the periphery of lens does not become opaque at once; one part may be opaque and the other quite transparent. With the lapse of time the opacity of the periphery increases and travels gradually towards the centre until the whole thing becomes opaque and the pupil attains a uniform white or bluish white colour. At this stage it is termed as mature cataract. But the opacity may be limited to the periphery only to start with: it is then called incipient cataract. The diffused opacity throughout the lens is called immature cataract. The cataract, if not removed on maturing, undergoes a change, and its cortical portion breaks down and becomes liquefied and in some cases it becomes dried up. The cataract is then known as hypermature cataract.

Patient gives a history of gradual diminution of vision without pain or any other inconvenience. Loss of vision is never complete—

perception and projection of light remaining even when there is no useful vision left. In some cases when the cataract begins in the centre of lens instead of the periphery the patient complains that the vision becomes confused in bright light and that he can see better in dim light. With the start of cataract the patient feels as if a wire-gauze or mist has been drawn up before his eyes and he is looking through it. Polyopia (seeing two Moons) may also be present. The time taken by cataract to mature varies from few months to years. In very old people the progress is more rapid. Artificial ripening, sometimes resorted to in the past, can hasten the maturing of an immature cataract, but with the present-day improved method even immature cataracts can be extracted. Moreover the cases where the opacity starts from centre becomes more rapidly mature than other cases in which the opacity begins at the periphery.

DIAGNOSIS

A typical case of mature senile cataract is very easy to diagnose and can very rarely be missed by any medical practitioner. In an uncomplicated cataract the eye is found to be otherwise quite normal, i.e., cornea clear, interior chamber clear and of normal depth; iris healthy; pupil regular, central and active; fundus reflex absent in mature cataract. Vision, as already stated, is reduced to mere projection and perception of light. However in earlier stages, i.e., in incipient or immature stages, it is likely to be confused with cases of chronic glaucoma. Apart from history and symptoms of the case ophthalmoscopic examination, if available, will clear the diagnosis, i.e., cupping of disc in chronic glaucoma cases is diagnostic. Moreover tension is normal in cataract cases.

TREATMENT

In spite of persistent efforts, no remedy has been found that will either prevent or cure cataract. Daily instillation of dionine 1% said to check the progress of lens opacities is doubtful. Various proprietary medicines have been put forward for the purpose, but none has held the field so far. Succus Cerinaria Martima is one of the few such drugs which is acclaimed to be successful in curing cataract, but its trial by me in three cases for long time has given no useful results. Therefore it is that the treatment of cataract is purely surgical was recognised long ago. The operation of "couching" consisting of two processes—dislocation and displacement—and has been practised from time immemorial in the east. Couchers practise this art of couching either

by depressing or removal of a cataract in eye. The coucher inserts his needle just in front of the corneo-sclerotic junction and drives it across in front of the iris of that side and beneath the iris of the opposite of the pupil until a measure limit of the needle has been reached as shown by a mark. The free end of this small probe-sized needle is elevated with cornea as fulcrum and the lens is depressed behind the iris below. The coucher then makes a special sweep—his trade secret—with the point of probe needle round each side to make sure of having detached the lens as completely as possible from its suspensory ligament and pushes it away from the pupillary area. The operation is now completed and the immediate results appear to be magical to the patient with no pain or inconvenience or any wound. Only one eye is bandaged and the patient is not rigidly enforced to lie down in bed—an advantage over our method. For want of proper sterilisation majority of these cases get sepsis. But in successful cases the aesthetic value of this operation cannot be competed by our modern methods. The ancient method always aims at the dislocation and displacement of entire lens. The coucher's ideal is the removal of the entire lens by couching. In a certain number of cases bursting of lens, iridocyclitis and atrophy of the bulb follows apparently from the lens acting as a foreign body. Though the object of this operation is to entirely dislocate the lens yet sometimes it fails and the lens floats up again in its original position behind the pupil—the untouched portion of the suspensory ligament acting as hinge. In rarer cases the dislocated lens becomes located between iris and cornea by making its way in front of iris. This always causes iridocyclitis and greatest inconvenience to the patients and its dislocation becomes entirely impossible by the side puncture of the cornea. All these considerations led the coucher to extract such a dislocated lens through corneal incision and it has been the practice since ages. Thus from couching was derived the modern operation of extraction of lens.

It was Daveil who in 1750 made the first deliberate incision in the cornea and after scratching the capsule squeezed out its contents and this technique was termed as extraction of lens after capsulotomy, i.e., "Daveil's operation". But up to the days of Lister the couching held the entire ground nearly. After the advent of aspesis and the use of cocaine in place of general anaesthesia couching lost some ground though even now "couching" has its own advocates. Indian couchers are still

found successfully practising this primitive operation not only in India but also in big European cities as Manchester, Hull, etc. Various modifications of Daveil's operation have been made since his time but when minutely examined they are of trifling nature. This method has however been superseded by a more scientific method, i.e., extraction of lens in capsule and this is now more or less universally practised. Its advantages are that there is no risk of after-cataract developing and it can be employed in immature cases as well. Moreover there are lesser risks of such serious complications as iritis, prolapse of iris, etc. The extraction is called simple when no iridectomy is performed and it is called combined when iridectomy is performed, the latter is much in vogue as it lessens the risk of prolapse of iris. The combined method is the operation of choice.

1. *Preparation of the Patient*. The eyelashes of the affected eye are cut with scissors to prevent the risk of irritation of the eye by any eyelash accidentally "turning in" while bandaging. The patient is made to lie flat on his back and a suitable anaesthesia instilled in the eye. Three drops of 4% cocaine solution at the interval of five minutes are usually dropped before the patient is brought on to the table. But the first essential to success in the operation is that the patient should be deeply "under" which from my personal experience while working in the eye-wards of the Civil Hospital, Amritsar, is not satisfactorily accomplished by the above routine. Even four drops at five minutes' interval were found to be not sufficient and another extra fifth drop had to be instilled in the eye while the patient was on the table. The patient must be made to keep his eyes closed after a drop of cocaine has been placed against the eyeball by pulling down the lower lid a bit. In view of the expensive nature of the cocaine another preparation named holocaine in combination with cocaine is used in some institutions. Two drops of cocaine lotion (4%) alternately with three drops of holocaine solution (2%) are dropped and the results are quite satisfactory. The cheapness and efficiency of holocaine made me discard cocaine entirely and about hundred operations were performed by me under holocaine anaesthesia with satisfactory results. Some surgeons of old used to instill a drop of adrenaline solution (1 - 1000) and atropine solution (1%) along with the cocaine solution just to make the area of operation bloodless and the pupil dilate. But this seems to be superfluous, and in trained hands there should be no risk of excessive

haemorrhage occurring. The eye is washed next with 1—2000 mercury lotion and the lid margin is dried with a sterilised cotton swab.

2. *Incision*: In intracapsular operation a decidedly bigger incision is required than in the capsulotomy operation i.e., for the former $\frac{1}{2}$ to $\frac{2}{5}$ of the circumference of the cornea is incised while for the latter only $\frac{1}{3}$. Formerly corneal incision was practised but distinct advantages accruing from the conjunctival incision has now been hailed as better method and practised as such for the following reasons:-

(1) Cornea has got no blood vessels, its healing is therefore delayed owing to scanty normal nourishment it gets. The incision being in the transparent portion, its scar obstructs the transmission of light rays and causes refractive defect.

(2) Corneal incision is smaller than any conjunctival incision, and so the extraction of the entire lens is more tedious in the former.

(3) Corneal incision tends to gap while conjunctival does not, and hence the greatest slur on the cataract practice from the view point of the patient (rigidly confining him to bed for 24 hours which is considerably lessened.)

The technique is as follows:—

Put in a speculum and fix the eye with an ordinary fixation forceps and bring the upper edges of the cornea as down as possible if the incision is to be directed upwards. A cataract knife (Grafe's) is then held between thumb and two fore-fingers and after surveying $\frac{2}{5}$ or $\frac{1}{2}$ of the cornea, the point of knife is inserted with fixed intention in the conjunctiva—just a thin Grafe's knife breadth outside the corneo-sclerotic junction till its point is distinctly visible in the space between the cornea and iris. The knife is then raised to an angle of 90° and is passed on forwards without any sawing movement till it reaches the cornea and between cornea and iris. The eye is then transfixed at such an angle as presented by the knife and a thin Grafe's knife breadth of conjunctiva is included on the inner side of the eye in transfixation. No sawing movement is to be done until the eye has been transfixed lest the aqueous may escape. The sawing movements are then commenced cutting more on the outer side till some aqueous flows out. The blade of the knife is then pressed a little downwards to include the iris in the incision and a very large and very nice iridectomy is performed. Performing of iridectomy along with the incision has some disadvantages, at least in the hands of the beginners, and it is better if after making the incision curved iris forceps is introduced and the iris is caught with it at its

pupillary margin and the forceps gently brought out until its point is just outside incision when with a sharp curved iris scissors a bit of iris is quickly cut off.

3. *Evacuation of Lens*: After completing the incision the operation area is dried up with a bit of sterilised cotton swab and patient directed to look towards his feet when pressure is put with a thick blunt hook on the lower end of the cornea with counter-pressure by a small curette or handle of cataract knife just above, and by the movements of hooks the entire lens is dislocated through the incision without any escape of vitreous. The iris is then gently repositied with an iris repositor. It is essential to make sure that no iris is left in the wound. The eye is then bandaged with a little smearing of eye-lids by sterilised vaseline and patient put to bed for eight to twelve hours only.

PIT-FALLS IN CATARACT OPERATION FOR THE BEGINNERS AS I EXPERIENCED

Do not be over-zealous in starting the eye work, i.e., serve as an apprentice with some renowned eye surgeon before making the attempt.

Always choose the more clear cases available and never attempt to perform operations unless you have at least four cases in a lot at hand.

Start with entire confidence in yourself and full equipment.

In choosing the cases be sure that none has got trachoma or other septic condition of the eye, etc., as otherwise your well-nigh achieved success may turn into a complete failure by sepsis which is sure to follow. In big centres like Amritsar and Moga at least 2% of cases get septic, simply due to overlooking of such precautions during the seasonal rush.

Be quite sure about your sterilisation arrangements. Do not be taken by the mere words of your assistants who think very lightly of this matter. You should see for yourself if everything required during the operation is properly sterilised.

Never attempt cataract extraction in the eyes which bear any recent traces of operative interference. And here to my dismay I may quote two cases that bore the unfortunate result of my inexperience in the line. One case has recently been operated upon by me for trichiasis and the wound though very nearly healed formed a nucleus for the sepsis which developed in the same eye after cataract extraction undertaken on persistent request of the patient. Similar unfortunate accident

(Continued at foot of next page)

The Therapeutic Value of Staphylococcus Toxoid

● Dr. N. Roy Choudhury, L. M. F., Bacteriologist, Serum Deptt., Indian Health Institute Laboratory, Calcutta

A NEW SPECIFIC TREATMENT

During recent years, it has been clearly shown that staphylococci in culture can produce a well-defined exotoxin having the same characteristic as the exotoxin of diphtheria and tetanus. Again, the production of staphylococcus toxin and its conversion into toxoid has provided a new specific treatment for all localised staphylococcal infections.

THE BUGBEAR OF POLYVALENCY

The bugbear of polyvalency in bacterial vaccines made it rather a difficult, nay, an impossible task to prepare a vaccine covering all the heterogenous types of a particular genus of organism.

(Continued from previous page)

happened in another patient who had been operated for pterygium and after a week's interval cataract extraction was performed in the same eye. Apart from these two cases none out of nearly 100 cases operated upon by me developed sepsis.

Thoroughly cocaine the eye. Do not spare cocaine. Better to use holocaine 2 to 4%. A completely "under" eye will yield better results.

Always try to make your incision as large as possible. If you, in the first instant, fail to get an entire conjunctival incision don't lose heart. Try again and the subsequent incisions will be satisfactory. In smaller incisions vitreous is sure to escape when pressure is put on the lens from below. Never mind if small amount of vitreous escapes. Patient will certainly get useful vision.

Train your assistant beforehand what you expect of him during the various stages of operation. Always have at least two assistants with you before starting the work and make them understand their respective duties.

Do not be disheartened with your earlier results. Improvement is sure to come in with every successful operation till you reach perfection.

With conjunctival flap technique you need not confine the patient to bed for full twenty-four hours—lying flat on back is troublesome to a patient. Patient can change sides after 8 hours and sit after 12 hours.

In organisms, however, from which a well-defined exotoxin has been possible to isolate, "polyvalency" is no consideration at all, since the efficacy of a toxin is based on its ability to induce in treated subjects the production of a suitable amount of corresponding anti-toxin.

Any and every strain is not, however, toxigenic. But the toxin prepared from any one of a selected highly toxigenic strain, (if found sufficiently potent on the basis of the ability of the formed toxin to induce a production of corresponding anti-toxin in treated subjects), is found to cover the whole genus or species of the organism in question irrespective of the individuality of the strain on the vaccine basis.

The preparations of staphylococcus toxoid have thus solved the "polyvalency bias" and a really standardised treatment is now available in staphylococcus toxoid for the treatment of localised staphylococcal infections.

STAPHYLOCOCCUS TOXOID—A TRIED THERAPY

Since its discovery, the staphylococcus toxoid was tried for its therapeutic efficacy and has met with uniform success in all pure staphylococcal infections.

The British, the French and the American schools have all, in practice, accepted this mode of treatment.

DIGEST OF CLINICAL REPORTS

A digest of clinical reports and authoritative and expert opinions are collected here which definitely establish the therapeutic value of a potent staphylococcus toxoid:

"There seems to be fairly general agreement now that toxoid is considerably of more value than vaccine of whole staphylococci."¹

"Staphylococcus toxoid has been reported to be a valuable agent in the prophylaxis and therapy of various staphylococcal pyoderms and localised pyogenic processes due to staphylococcus aureus and albus, boils, carbuncle, furunculosis, acne and so on. The toxoid is said to be effective in producing active immunity to the dermo-necrotic and haemolytic elements of toxins of staphylococcus aureus and albus, irrespective of the individual strain of the infecting organism. The toxoid induces the production of quantitative amounts of staphylococcus anti-toxin in the blood serum of immunised persons."²

"Twenty-eight patients suffering from intractable, persistent or recurrent staphylococcal infections, including 16 severe cases of boils, received a series of injections of a toxoid prepared from several strains selected for their high toxigenicity. Alleviation and then a parent cure of their infections occurred soon after the commencement of the treatment in each case and could not be correlated with an increased titre of circulating anti-toxin."³

"Active immunisation with toxoid leads to an increase in circulating anti-toxin and affords protection against infection, at least in laboratory animals. Clinical units are accumulating and showing the value of toxoid in the treatment of subacute and chronic staphylococcal conditions in man."⁴

"Toxoids which are able to evoke neutralising substances in the serum of laboratory animals and of man against the foregoing toxic factors are clinically efficacious."⁵

Using toxoid for treatment, we are satisfied that a rise in anti-haemolytic titre is accompanied by clinical improvement."⁶

"Evidence is fast accumulating to the effect that immunisation and treatment with staphylococcus toxoid is of definite value in cases of localised infections."

Following is a brief report of the Therapeutic Trial Committee of the Medical Research Council on the treatment of 200 cases with staphylococcus toxoid.

IMMUNISATION CHART

Four injections intramuscularly at weekly intervals :
1st injection — 0.05 c. c.
2nd " — 0.1 " "
3rd " — 0.2 " "
4th " — 0.4 " "
Total — 0.75 " "

SUMMARY OF RESULTS

Lesion	Cases	Recovered	Recovered or improved but relapsed	No effect
Boils	117	76 (65%)	29 (25%)	12 (10%)
Styes	42	37 (88%)	5 (12%)	...
Carbuncle	24	20 (83%)	4 (17%)	...
Pustular acne	9	2	4	3
Sycosis	8	...	1	7

Conclusion: In the present series, the majority of patients had previously many other forms of local and general treatment without success. In these circumstances, the clinical results with toxoid are impressive."

DOSAGE

Treatment consists in the intramuscular injections in gradually increasing doses beginning with a dose of 0.05 c. c. of the toxoid representing 50 dermonecrotic doses of the original toxin before conversion into toxoid and gradually increasing up to a dose of 1 c. c. in the last injection. 6 to 8 injections form a course.

The smaller doses should always be made up to 1 c. c. with normal saline for convenience of injection and for minimising local reactions.

The schedule of doses may be set up as follows: (Toxoid prepared from a toxin having at least 1000 dermonecrotic doses per c. c.)—

	Representing Injection Dermo-necrotic doses	Volume in c.c. Made up to 1 c.c. with normal saline
First	50	0.05
Second	100	0.1
Third	200	0.2
Fourth	500	0.5
Fifth	750	0.75
Sixth	1000	1

Remarks: While setting up the doses as stated above, be it mentioned here, that there is always a certain amount of variation in the clinical response evidenced by different individuals after the injection of an active immunising agent and it is impossible to establish arbitrary rules as regards dosage so as to suit any and every case. The suggested doses are, however, based upon a thorough consideration of the clinical work, which has been reported up to the present time and will be found applicable in most cases.

REACTIONS TO TOXOID INJECTIONS

The idiosyncrasy of the patient is a great factor in the nature and severity of the reactions after an injection of staphylococcus toxoid. In many patients, the reactions are so mild that they pass almost unnoticed. In others, a red inflammatory zone at the site of injection appears, which lasts for 24 to 36 hours and then fades away rapidly. A few patients seem to react very violently; very severe and general reactions associated with swelling of the arm and fever have been reported lasting for several days causing much trouble and inconvenience. To avoid this, patients suffering from any symptoms of allergy in the form of urticaria or asthma should be dealt with very cautiously. The first 2 or 3 doses of toxoid in such patients may advantageously be preceded by an injection of a local anæsthetic and the required dose for injection should always be well diluted to make up to 1 c. c.

EXACERBATION

Temporary exacerbations during treatment may sometimes be noted. It should be kept in mind that an exacerbation does not contraindicate treatment but rather suggests that the individual is a sensitive subject and should be treated with doses smaller than those adopted in the particular case.

RELAPSES

Certain number of cases recorded as successful with the scheduled scheme of 6 gradually increasing doses may relapse subsequently after an interval varying from a few weeks to a few months. In such cases a second course, in most cases, procures permanent cure.

CONCLUSIONS

Staphylococcus toxoid is a superior therapy to staphylococcus vaccine, stock or autogenous, and is the best therapy for the localised staphylococcal infections at present available.

It is best indicated in all subacute or chronic staphylococcal infections irrespective of the individual strain of the infecting organism.

It has been tried with success in the following conditions: abscess, boils, carbuncles, stye, sycosis, facial cellulitis, osteomyelitis, etc.

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The Commonplaces in the Study of Placenta Prævia

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Normally placenta is attached to upper uterine segment but when the whole or part of it is situated on the lower uterine segment, it is known as placenta prævia. The lower uterine segment during the later weeks of pregnancy and the first stages of labour is stretched and gets dilated in order to allow the passage of the foetus; but the placenta cannot be stretched and so separation of placenta from its uterine attachment results in hæmorrhage from the exposed placental site. This type of hæmorrhage is termed as *Unavoidable Antepartum Hæmorrhage*.

No accurate statistics of its frequency are available, as many of the cases of placenta prævia do not continue till the 8th month but cause abortion in early months and hence are not recorded. Moreover all cases do not seek medical aid in India. Roughly we can say that it is not a very common condition. It occurs in about 1 in 300 cases in tropics as given by Green Armytage. Some describe its frequency as 1 in 500 cases.

Two varieties of placenta prævia are commonly described:—

(1) *Complete*: It is also called placenta prævia centralis. In this variety the placenta covers the entire undilated internal os. Clinically this variety corresponds to cases in which the finger, when passed through the cervical canal, cannot touch the membranes.

(2) *Incomplete*: Here the placenta does not cover the internal os. This is again divided into 2 types:—(a) *Marginal Placenta Prævia* or *Placenta Prævia Marginalis* where the placenta comes down to the edge of the internal os so that its edge can be reached and felt by the finger. (b) *Lateral or Partial Placenta Prævia* or *Placenta Prævia Lateralis* where a portion of the placenta lies in the lower segment but does not reach as low as the internal os.

Thus it is evident that there are 3 varieties of placenta prævia. All these varieties are defined in relation to the undilated internal os as the relation of placenta to the internal os varies according to the degree of its dilatation. Thus a case which appears complete when internal os admits one finger only may

be found to be marginal when os admits 3 or 4 fingers. In order to avoid this confusion, it is better to define the placenta in relation to the undilated internal os.

ÆTIOLOGY

The ætiology of placenta prævia is still obscure although various theories have been advanced. The following factors have been found to be constantly associated with this condition. They may be termed as predisposing causes.

Predisposing Causes:—(1) *Multiparity* especially quickly succeeding pregnancies: It is more frequent among multipara than among primipara. Patients who have had many children in quick succession are generally the victims. It is only in a very few cases that it has been found in primipara. Thus history of rapid child bearing is a factor which may aid in diagnosing the condition.

(2) It is also relatively more common in cases of twin pregnancy.

(3) Chronic infection and inflammation of the endometrium.

Basic Causes.—As to the exact cause of placental implantation in the lower uterine segment various theories have been formulated. But a study of the normal site of the ovum implantation may help us to understand the problem of placenta prævia.

It is an undisputed fact that upper uterine segment is the normal and most frequent site of the implantation of the fertilised ovum. Moreover it has also been proved by researches and observations that isthmus uteri of the non-pregnant uterus becomes transformed into the so-called lower uterine segment of the pregnant uterus. Many significant differences in the structure and blood supply of the corpus and isthmus uteri have been found by Frankl in his studies of the uterus. He found that the upper uterine segment has (1) a comparatively richer blood supply and (2) a greater and readier response to hormonal influences than the lower uterine segment. He, therefore, explained the frequency of implantation of the placenta in upper uterine segment on these structural and nutritional differences. The isthmus uteri, which later constitutes part of the lower uterine segment, is not endowed with adequate provisions. Nature has designed it for a different role. Another reason for this frequency of upper segment implantation of the placenta, besides richer nourishment and better decidual reaction, is its proximity to the uterine opening of the fallopian tubes. The ovum after coming out of the tube, first comes in contact with the corpus and not the isthmus. Thus we

see that a poor blood supply and lack of hormonal influence are not the only factors in the relative infrequency of lower uterine segment implantation. While this is generally true, it has been, however, observed that in a case of placenta praevia the foetus can grow to full term if not prevented by hæmorrhage caused by early separation of placenta in this region. Similarly cases of abdominal pregnancy have grown to full term. This affirms the inherent power of the ovum to extract and create *in situ* the necessary nourishment for its growth wherever it may implant itself.

It is well known, as mentioned earlier, that multiparity, especially of the type of rapidly succeeding pregnancies, is a predisposing factor in placenta praevia. It is also known that a multiparous uterus during child-bearing age does not fully return to its original non-gravid condition. The size of its cavity becomes increased and its muscular tone becomes impaired by the frequently recurring pregnancies. In such cases, perhaps on account of exhaustion or poor blood supply, there is insufficient decidual reaction on the advent of pregnancy with consequent low implantation of the fertilized ovum. The low implantation takes place because the poorly developed decidua fails to arrest the downward course of the ovum and attract its implantation at the normal level soon enough. Thus multiparity favours the delayed implantation of the impregnated ovum, permitting it to fall further downwards until it is finally arrested by the decidua in the narrower cavity lower down, at the lower part of the upper segment, giving rise either to marginal or partial type of placenta praevia depending on the degree to which the lower segment is involved; or the ovum may not be arrested until it reaches the still narrower portion lower down in the region of the lower segment surrounding the internal os, resulting in placenta praevia centralis. The ovum is endowed with such vital powers that it can open up blood vessels and extract nourishment for itself wherever it may happen to lodge, whether in lower uterine segment, the peritoneal surface or the intestine. The ovum does not implant itself more often in the lower segment, perhaps not because the latter is not endowed with sufficient nourishment, but because the ovum does not frequently have the chance to reach that location as it is normally arrested at the proper site of implantation in the upper segment.

MORBID ANATOMY

(1) Placenta usually covers a larger area than normal.

(2) It is frequently degenerated and contains infarcts which may undergo calcification. These changes may be explained by comparatively poor blood supply to the placenta.

(3) Placenta praevia is usually unhealthy: (a) Abnormal shape: normally placenta is thicker at the centre and thinner at margins while it is not so in the case of placenta praevia. (b) Abnormal consistency: placenta praevia is not vesicular in all its parts. (c) Abnormal thinness: Placenta praevia is usually thin, so much so that it sometimes resembles a membranous placenta. (d) Cord has frequently a marginal insertion.

(4) Lower segment of uterus and cervix are thicker than usual and are more vesicular. They do not dilate so well and tear more frequently.

EFFECTS OF PLACENTA PRAEVIA

(1) Malpresentation: engagement of head is difficult as part of lower uterine segment is occupied by the placenta.

(2) Hæmorrhage before or during labour.

(3) Premature labour due to separation of placenta which in turn is due to dilatation of lower uterine segment in the last weeks of pregnancy.

(4) Uterine inertia due to loss of blood.

(5) Post partum hæmorrhage from uterine inertia and inability of lower uterine segment to retract properly.

(6) Sepsis.

Hæmorrhage from placenta praevia may start in one of the following ways:—

(1) In case of capsular placenta it is probably due to degeneration and excessive thinning of the capsular portion due to increase in the size of the ovum. In such cases the hæmorrhage usually begins during pregnancy, unless the union between the capsular placenta and decidua vera is very dense.

(2) In cases of low implantation of ovum the placenta, entirely of basal origin, hæmorrhage as a rule, is started by the expansion of the lower uterine segment during the last month of pregnancy or by the dilatation of internal os when blood sinuses in the lower segment are opened up by the separation of the placenta. As a rule, in such cases, hæmorrhage does not occur until full term but sometimes it may occur earlier as a result of onset of premature labour. Painless uterine contraction during the 7th or 8th month may also cause hæmorrhage due to separation of placenta on account of slight expansion of the lower uterine segment.

(3) Placenta praevia may also be detached for reasons similar to those which bring about detachment of a normally located placenta, viz.

nephritis, syphilis, decidual endometritis, placental infarction, etc.

(4) In some cases hæmorrhage may be due to tearing of the so called circular sinus of the placenta—that is the outer ring of the intervillous space which surrounds the placenta. The sinus may be torn even when placenta is normally situated but is naturally more exposed to injury during labour when the edge of the placenta passes across the uterine orifice.

SYMPTOMS

(1) The chief symptom of placenta praevia is repeated attacks of hæmorrhage per vaginam. These may occur at full term or during the last 2 or 3 months of pregnancy. If a woman in full term, suddenly one morning finds blood on her bed, she has to be suspected of placenta praevia. This bleeding comes on apparently without any cause, perhaps in the middle of night. Exertion and trauma may also cause hæmorrhage but ordinarily we get no such cause. The first attack is severe but usually not fatal. In some cases it may be fatal if very severe. The subsequent attacks are usually not severe. If it occurs for the first time during the first stage of labour, it is generally excessive.

(2) Repeated attacks of hæmorrhage are followed by brown discharges per vaginam.

(3) Pain in the lower abdomen is also complained of.

Signs: (A) Abdominal Examination: (1) Uterus may be enlarged corresponding to the period of pregnancy. (2) It is not tender. (3) Its consistency is normal. (4) Malpresentation may be present and is common. (5) Presenting part is found to be high up usually.

(B) Vaginal Examination: *Per vaginam* one can feel the soft spongy mass (which is the placenta) through the fornix.

Effect of Placenta Praevia on the course of labour: 1st stage of labour: Labour during the first stage is tedious as the uterus acts feebly due to bleeding.

2nd stage of labour: Labour during the 2nd stage is delayed due to following reasons: (1) The usual bag of water is not present because the placenta forms part of the lower pole of ovum, thus diminishing its dilating effect on the cervix and its stimulus to the uterus.

(2) Even after the rupture of membranes, the presenting part which is usually hard does not come in contact with the uterus due to intervention of placenta and hence the normal stimulus to uterine contraction is not produced.

(3) The thickened and more vesicular lower uterine segment dilates less easily.

(4) Loss of blood causes uterine inertia.

3rd Stage of labour: During 3rd stage, post-partum hæmorrhage is very liable to occur and may even recur. The causes of this post-partum hæmorrhage are as follows:—

(1) Uterus is sluggish due to loss of blood.

(2) Placental site is larger than usual.

(3) Placental site is situated in the lower uterine segment which does not retract so strongly or so early as the upper uterine segment.

(4) Bleeding from laceration of lower uterine segment and cervix is common if undue force is used in delivery.

Diagnosis: It can be established by considering—(a) Previous history of (1) multiparity (2) endometritis.

(b) Present history and complaints—History of slight and repeated bleeding *per vagina* during the last 3 months of pregnancy or at the onset of labour.

(c) Abdominal examination—(1) High situation of the presenting part. (2) Increased difficulty in feeling the foetal parts over the area of lower uterine segment. (3) Malpresentation may be found. (4) Increased sense of resistance.

(d) If the presenting part is firmly fixed in the pelvic brim, before labour begins or in early part of the first stage, it is most unlikely that there is placenta praevia.

(e) P. V. Examination: (a) If os is not dilated we feel a soft spongy mass formed by the placenta on palpating through one of the fornices, or if the head is presenting it may be felt plainly through one fornix and indistinctly through the other. (b) If os is open we can actually feel the placenta.

If breech is presenting, P. V. examination is not of much value till os is dilated. One may mistake the maternal surface of placenta for a blood clot during P. V. examination. This can be differentiated by the fact that the maternal surface of placenta is firmer, more fibrous and less friable.

DIFFERENTIAL DIAGNOSIS

(1) Accidental Hæmorrhage	Placenta Praevia
Hæmorrhage is continuous and progressive. Blood very dark.	Repeated attacks of bleeding at intervals extending over several weeks. Blood bright.
Toxæmic symptoms such as œdema, albuminuria, and abdominal pain are usually present.	No toxæmic symptoms. It is painless, malpresentation may be present.
Head well engaged in the brim of the pelvis.	Head is usually above the brim or malpresentation may be present.
Uterus is tense and hard in cases of concealed hæmorrhage.	Uterus is of normal consistency.

Accidental Haemorrhage

Fœtal parts can hardly be distinguished (only in concealed hæmorrhage) and fœtus is dead.

Os is not usually patulous.

P. V. Examination - cannot feel placenta.

Placenta Prævia

No difficulty in distinguishing the fœtal parts and fœtus is alive.

Os is patulous. Cervix usually admits one finger.

Placenta can be palpated.

II. Hydatidiform Mole - (a) Uterus is larger than normal. (b) Discharge of vesicles per vaginum.

III. Other conditions requiring differentiation are:—(a) Intra-cervical carcinoma. (b) Polypus. These can be easily excluded.

PROGNOSIS

(a) Maternal prognosis in placenta prævia greatly depends upon:

(i) presence or absence of uterine contraction.

(ii) Amount of hæmorrhage is much greater with a complete than with an incomplete placenta prævia.

(iii) Early obstetrical aid. This is most important as many of the fatal cases have bled severely already or already have been infected before any skilled treatment can be adopted.

(iv) The nature of treatment adopted.

(v) Extent of pre-existing sepsis.

(vi) General condition of the patient.

(vii) Prognosis is most serious in primipara with an unyielding cervix.

(viii) The more central the attachment, the graver the prognosis.

Mortality varies from 2 to 40 per cent., a fairly high rate and the most common causes are excessive bleeding and severe sepsis: pulmonary embolism and shock are also equally important factors.

Fœtal mortality is usually very high—from 40 to 75 per cent. 85 per cent of all cases are still-born and a large proportion of the remainder soon die after birth. The causes of fœtal mortality are prematurity or asphyxia, or pressure on the umbilical cord.

TREATMENT

It varies with (a) general condition of the patient, (b) whether labour has started or not and (c) presence of other complications.

(1) If the patient is in a condition of severe shock, we should first of all try to overcome this by an injection of morphia and rectal or intravenous saline with 5 per cent glucose.

When the patient has recovered from shock, further treatment will depend upon the stage of labour and other conditions.

(2) If diagnosed during pregnancy, a patient with placenta prævia should, if possible, be removed to an institution or at least be under

constant medical supervision. In the event of any bleeding occurring during the period in which the patient is under observation, the treatment should be followed on the same lines as when the labour has actually started.

If one is called upon to see a case of placenta prævia during labour (i.e., when the labour has started actually), it is better to remove the patient to a hospital or institution where constant medical supervision can be obtained.

No single line of treatment can be applied to all cases. It all depends on the condition of the cervix.

If cervix is closed and the cervical canal not shortened, rupture the membranes with blunt instrument and apply a binder which will keep the presenting part pressing against the placental site. This will be found quite sufficient and suitable in a case of marginal placenta prævia with slight bleeding. In case of severe bleeding tight vaginal plugging under an anæsthetic will be required in addition to putting on a binder. Although theoretically it is necessary to rupture the membranes before the vaginal plugging is done, yet in actual practice it has been found that the plug works as effectively with membranes intact as with ruptured membranes. Moreover this unruptured bag of membranes may be helpful later on to us as it may facilitate version if it may be found necessary. This tight vaginal plugging is after all a temporary measure pending the removal of the patient to the hospital where detailed lines of treatment, have to be considered with reference to the peculiarities of the case on hand.

(b) If cervix is partially dilated and admits a finger or two and in cases of lateral placenta prævia, rupture of the membranes and application of a tight abdominal binder will usually stop the bleeding. In the case of other varieties of placenta prævia any of the following methods of treatment may be adopted:—

Brazton Hick's Treatment.—(Bipolar podalic version). It consists in turning the fœtus by bipolar version into a breech presentation, rupturing the membranes, drawing down a foot and leaving the rest of delivery to nature. No immediate extraction of the child is done as efforts at immediate delivery inevitably increase the shock from which the woman may be suffering and also often causes tearing of the cervix and traumatic hæmorrhage. If it is a case of central placenta prævia, the fingers may be pushed directly upwards through the placenta to catch the leg. There is usually no difficulty in doing this. Such a treatment usually checks the hæmorrhage by the pres-

sure of the breech or the back of the child against placenta. It also brings on labour if not already started. If oozing still persists, a piece of gauze may be tied to the foot and a weight attached to it. This, by light and continuous traction, will check bleeding by drawing down more of the breech. In order to carry this out successfully, two conditions must be present, viz.—

(a) Membranes must be unruptured—this is nearly always present unless the ignorant attendant has ruptured it.

(b) Os must be large enough to admit at least 2 fingers. This is also usually present in all cases which require treatment for severe bleeding.

Advantages of this method are: (i) It does not require any special instrument. (ii) It can be done in any dispensary. (iii) Child is born without any further interference.

Disadvantages are:—(i) Fœtal mortality is high.

(ii) It is rather a difficult operation when os admits only 2 fingers. External version should always be first tried as it has certain advantages over bipolar. Failing this, bipolar version may be done, bringing a leg down.

Advantages of external version are:—(i) Less damage to placenta. (ii) less shock.

Champetier de Ribes' bag has largely passed into disuse in modern obstetrics.

(iii) *Willet Forceps.*—It is passed through the os, after rupture of the membranes, and the child's scalp is grasped by it, as far back on the vertex as possible. A weight of from 1 to 2 lbs. acting over the pulley is attached by a long bandage to the forceps and hung over the end of the bed. Such a weight causes a continuous traction on the head which induces sufficient pressure on the placental site and this prevents any further bleeding. When labour starts it continues normally and dilatation of cervix is facilitated. The injury to the fœtal scalp is negligible. Encouraging results have been obtained by this method. It is a simple method of dealing with any case in which vertex is presenting and in which placenta does not completely cover the os. Cervical dilatation sufficient to admit at least one finger is necessary for this method.

(iv) *Cæsarean Section.*—Of late, it has been warmly advocated and is often done because it is better both for the child and mother, maternal mortality being only 11 per cent while fœtal mortality is 7 to 22 per cent.

Indications.—(a) If the birth of a living child is of particular importance for instance, if the patient is a primipara over 40 years of

age whose chances of future conception are small. (b) If there is likely to be least difficulty in delivery as from slight contraction of pelvis. (c) If uterus is not contracting and cervix is rigid. (d) If patients have both eclampsia and unavoidable hæmorrhage. (e) If there is a central placenta prævia, particularly in a primipara with a living child.

Caesarean section gives best results in cases of central placenta prævia.

Risks.—(1) Sepsis (2) Formation of adhesions (3) Rupture of uterine scar later on.

Disadvantages.—(1) It is not suitable for ordinary private practice. (2) It is too radical a method for most cases of placenta prævia. (3) Moderate success can be obtained even with ordinary methods if conditions are as favourable as when Caesarean section is done.

Contra-indications.—It should not be done in a case with dead or non-viable child unless any other definite indication is present.

Roughly speaking, if the child is above and viable and mother's condition is fair, so that she can stand second anaesthetic if necessary, a bag may be used or better still head traction by Willett forceps may be tried. With non-viable child and with an exsanguinated mother to whom a second anaesthetic may be serious and with a half dilated os, version should be the treatment of choice. With central placenta and viable child, Caesarean section is the best method or bipolar version may be done. As soon as the leg is brought down, the bleeding stops due to pressure on the placental site; additional pressure can be made by attaching 2 lbs. weight to the fœtal leg if bleeding still continues. If os is not sufficiently dilated for version, or bag, or Willett forceps, vaginal plugging may be done, or under anaesthetic cervix may be dilated with Hegar's dilator. If cervix is fully dilated (it is very rarely seen) and if the head presenting rupture the membrane; the coming down of the head will check bleeding by pressure on placental site. Should it fail, delivery by forceps may be affected as delivery by version is less simple and is accompanied by more shock. But in forceps there is a great risk of injury to the soft lower uterine segment. If breech is presenting bring down a leg. In those cases in which placenta is central and the membranes cannot be rent, all manipulations described above should be done after perforating the placenta itself.

One must always keep in mind Hermens' dictum: "Early turning, slow extraction and antiseptic." When bleeding has been checked by pressure on half breech, or leg, if necessary

(Continued at foot of next page)

CLINICAL NOTES

An Interesting Case of Vesico-Vaginal Fistula

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Mrs. X, 27 years old, Hindu, was admitted on 16th July 1938 under Dr. G. H. Marchant with the complaint of dribbling of urine per vagina for a month and a half before date of admission. This complaint resulted 5 days after the last confinement which occurred 1½ months before date of admission into hospital. She had 3 full-term pregnancies in all, out of which the previous two ended in normal labour and without any complications during the puerperium. The last one was a still-birth and gave rise to the vesico-vaginal fistula for which the patient sought admission into the hospital. All her 3 confinements were done in the house. Her menstrual periods were quite regular and normal, giving rise to no complications.

General examination of the patient showed that she was rather thinly built and of shorter stature than the average height of a woman of her age, otherwise quite healthy. Nothing abnormal was found on abdominal examination. The vaginal walls were quite congested as a result of a recent labour and the pelvis was of a tri-radiate osteomalacic type. The transverse diameter of the pelvic outlet measured only 2 inches. A circular vesico-vaginal fistula, size of about an anna piece, could be felt and seen

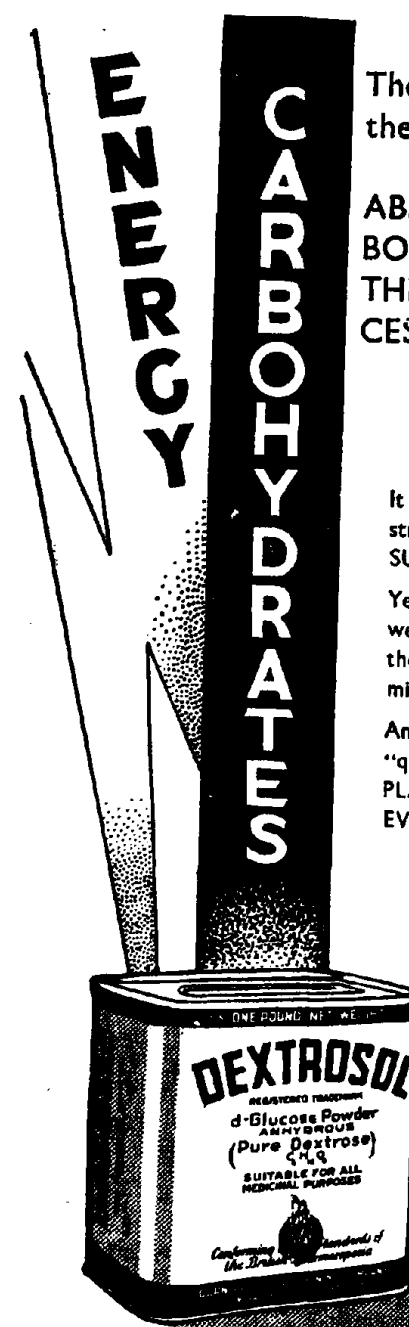
(Continued from previous page)

by attaching a weight, there is no need for any hurry. In fact anything done further in the direction of hurrying labour, apart from inducing good uterine contraction, is bad mid-wifery. The object is not to get the uterus emptied as rapidly as possible, but to ensure that the uterus when empty will be well retracted. The greater the part uterus itself plays in the expulsion of the child the better it is. Good uterine contraction is unlikely when the patient is exhausted by loss of blood. Hence the advice: "Slow extraction". As soon as the bleeding has been arrested, the patient has a chance to recover from its effects with the help of warmth, nourishment and possibly of sleep. When uterine contractions are strong enough to expel the child an efficient amount of retraction will be present and this would prevent post-partum haemorrhage.

high up in the right antero-lateral fornix, a situation which was not easy to approach in an osteomalacic contracted pelvis. The uterus was retroverted and retroflexed, otherwise normal. Infravaginal portion of the cervix measured about ½" only, another drawback for the operation since we could not pull well on the cervix with the vulsellum and draw it down so as to get a better view of the fistula. There were well formed and thickened fibrous tissues round the circumference of the fistula. Small phosphatic crystals were found in the vagina dribbling out with the urine and a calculi was felt blocking the fistula. Patient gave no history of having passed any stones previously. On 30-8-'38 she was sent for X-ray examination of the bladder for presence of calculi and the report came positive for vesical calculus.

On 27-8-'38 a litholopaxy was performed and the stone crushed and washed out by a bladder wash.

On 27-10-'38 Dr. Marchant attempted the repair of the fistula. The pelvis being contracted it was very difficult to insert a vaginal speculum and retract the vaginal wall sufficiently enough so as to get a proper view of the fistula as well as to have sufficient space to work in. With great difficulty Dr. Marchant managed to put in the necessary instruments and dissect out the fibrous tissues round the fistula, then separate the anterior vaginal wall from the mucous membrane of the bladder round about the fistula. This resulted in increasing the size of the opening to 3 inches. After the fibrous tissues were well dissected out and the anterior vaginal wall separated, fine cat-gut continuous sutures were passed through the muscle coat of the bladder near the region of the fistula, leaving the mucous layer and the anterior vaginal wall free. Thus the adjacent muscular walls of the fistula were apposed and brought together closing the fistula thereby. Next the anterior vaginal wall, separated from the bladder round the area of the fistula, were apposed in the same way on the muscular coat of the bladder but with the thicker cat-gut and thus a second and stronger layer of support was formed external to the apposed muscular layers. The fistula was now completely closed. A bladder wash was then given by means of a coloured fluid and nothing seemed to be escaping in the vagina from the closed-up fistula. A self retaining catheter was inserted and the patient watched daily. The catheter was removed on the 10th day after operation and for 5 days after removal of the catheter patient never dribbled urine per vagina. On the morning of the 6th day whilst making my morning rounds



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ASSOCIATED WITH	MUSCULAR TWITCHINGS	Ampoules	1-2
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it was reported to me that the patient is again dribbling urine *per vagina*. This was verified by a bladder wash. The same night patient passed a stone (size of about a four anna piece). Thus our attempt at repair failed and we decided to make a second attempt after some days. In the meantime patient was on urinary antiseptics, viz., intravenous hexamine and boric bladder wash daily.

Five weeks latter we made the second attempt. This time the attempt was still more difficult and her naturally contracted pelvis was really an absolute disadvantage for a successful operation. As on the previous occasion, the fibrous tissues were again dissected out and the anterior vaginal wall separated from the bladder round about the fistula. In our attempt to pass the cat-gut suture as before through the muscular coat of the bladder in the region of the fistula, the stitches were cutting through and would not take. The same thing happened when trying to suture up the anterior vaginal wall round about the fistula. Patient then began to bleed quite a fair amount from the layers of tissues dissected round the fistula, and finding it impossible to get at the fistula properly with contracted pelvis and a limited space, Dr. Marchant gave up the attempt and asked me to pass silk worm gut sutures including all layers of bladder and vaginal wall in the region of the fistula, so as to control the bleeding for the present and then to do a transplant of the ureters after some days. The silk worm gut sutures were brought out through the vaginal wall in the region of the fistula and kept long enough as to facilitate their removal. Interrupted sutures were given and they were 5 in all. The bleeding was controlled and a self-retaining catheter put in. For the first 2 days blood-stained urine was passed but this gradually cleared up by running in $\frac{1}{2}$ c. c. adrenalin into the bladder through the catheter for 2 days and the urine was normal except for thick deposits of phosphates. On the 10th day after this second attempt, the self-retaining catheter was removed. Patient began passing urine through the natural passage and did not dribble *per vaginam*. On the 14th day the silk worm gut sutures were removed and the region round the sutures were found surrounded with healthy granulation tissue. Patient was still not dribbling *per vagina*. On the 16th day patient was allowed to sit up. Still patient never dribbled *per vagina* and whenever she wanted to urinate she asked for the bed-pan and passed urine naturally. On the 21st day patient was allowed to walk and still no urine dribbled out. On the 21st day a bladder wash

A Case of Algid Type of Malaria with Hæmorrhagic Stools

• Dr. P. C. Dutt, L.M.F., M. O., Rajani Ranjan Ch. Dispy., Noapara, Chittagong

A few days ago, I was urgently called to see a young man aged about 24 years. At 12 noon, I reached there and found the patient in a very precarious condition.

The patient had a sudden attack of high fever with shivering on the previous day, but the temperature came down to normal at night. In the morning he felt a sensation of nausea and epigastric distress. The temperature then shot-up high and with it he had several watery motions. Afterwards he passed a few hæmorrhagic stools, containing small shreds of mucus, closely resembling the stools of bacillary dysentery. Signs of dehydration were very marked. Abdominal examination revealed only a palpable spleen with some amount of tenderness. Pulse was rapid, small and thready: respiration - hurried: temperature - 100.5°F. Patient was in collapse. The blood was at once sent for M.P.

After measures to guard against his collapse, Atebrin 3 gm. was at once injected intramuscularly. In the course of a few hours, some amount of improvement was observed. Noting this progress, he was given another injection of atebrin 3 gm. after an interval of 18 hrs. and the patient made an uneventful recovery.

The blood report, showed a heavy infection with M.T. parasites.

Remarks: 1. Onset of fever with characteristic hæmorrhagic stools, some amount of toxæmia and severe prostration, were at first suggestive of bacillary dysentery.

was given just to see if any fluid escaped into the vagina. Not a drop passed into the vagina and the patient was discharged being asked to report herself at the O. P. D. on alternate days. She came to the O. P. D. on two occasions and reported that she is not dribbling at all *per vagina*.

This case is interesting from this point of view that the attempt at repair of the fistula *per vagina* was given up and a transplant of the ureters decided upon; also the stitches inserted in the second operation were really to control the bleeding and not for closing the fistula. But we found that they had brought about a success of what was really a failure and saved the patient of a more drastic operation, viz., transplantation of the ureters.

2. But history of fever with shivering on the previous day, and its remission at night: fever in the next morning with watery and then with bloody stools, and absence of twisting abdominal pain and rectal tenesmus; presence of a palpable spleen with some amount of tenderness and the presence of malarial parasites (M.T.) were points of clinical importance in diagnosing this case as an algid type of malaria.

A case of Herpes Ophthalmicus, successfully treated with Posterior Pituitary Extract

• Dr. Kshitish Chandra Shaha, Senior House Surgeon, General Hospital, Chittagong.

S. J. aged 40 years, was admitted into the Chittagong General Hospital on 1-10-38 complaining of some eruptions around the left eye together with intense pain and headache.

History—The patient complained of having a small reddish eruption on the left upper eye lid about 8 days back. For about 5 days fresh crops of eruptions appeared around the left eye. Along with that she had severe headache and pain in the left eyelids as a result of which she could not open the left eye. On examination I found about 25 vesicles distributed mostly on the left upper eyelid and above the brow and a few on the lower eyelid. The eyelids were swollen, closed and had to be separated with speculum. The conjunctiva and cornea were slightly congested. The right eye was quite normal. Pulse and temperature were normal.

From the day of admission she was given.—

- (1) Prontosil Album—2 tablets—B.D.
- (2) Hot Boric fomentation over the affected part.
- (3) Liquid Paraffin drop into the eyes.
- (4) Mist Alkaline with Pot. Bromide T.D.S.

This was continued for 3 days, but there was no improvement. From the 4th day the above line of treatment was completely omitted and instead the patient was daily given $\frac{1}{2}$ c.c. of Pitraphorin (Schering) and a powder containing gr. 10 of Salicin in Sac. Lactas.

With this treatment the patient improved marvellously. After 24 hrs. the vesicles began to shrink and the swelling of the eyelids diminished. After the 3rd injection all the vesicles completely disappeared leaving small, depressed scars. The eyelids and conjunctiva returned to normal and there was no more headache and pain in the eye. Treatment was stopped from the 7th day of her admis-

sion and the patient was discharged from the hospital on the 8th day.

Noteworthy points in this case are.—

- (1) The temperature was all along normal.
- (2) Post Pituitary Extract acted as a specific remedy, making the vesicles disappear completely after 3 injections each of $\frac{1}{2}$ c.c.
- (3) Along with the disappearance of the vesicles, the eye symptoms also subsided.

Treatment of Schizophrenia by Cardiazol

• Dr. R. D. D' Souza, Mental Hospital, Ratnagiri.

Cardiazol 5 c.c., when injected intravenously, the patient develops within 30 seconds typical epileptiform fits starting with twitching of the eyelids. In two cases reviewed below there was seminal discharge during the fit.

Young patients reacted better in as much as they showed improvement soon after the first injection of 5 c.c. of cardiazol.

(1) K. A. Male aged 30 years was irrational and had religious delusions. He showed considerable improvement after the 1st injection. After the second injection his talk became rational and delusions disappeared and his general behaviour improved. He was given further three injections and discharged recovered.

(2) A. M. Female, aged 24, was irrational, noisy and careless about her dress; had insomnia.

Soon after the first injection she showed improvement. After the second injection she was rational in talk and took notice of her surroundings and got good sleep. In all she was given six injections and was discharged recovered.

(3) B. M. Male aged forty got periodical attacks of delusions of a woman troubling him; at such times he cried and refused his food.

He was given in all five injections. He showed much improvement. Since the injections he works with concentration at the weaving loom of this hospital and is free from the delusions for a period of over a month. He is further watched.

This treatment was tried in six more cases including one female but with no encouraging results.

My thanks are due to Dr. D. M. Bhatawadekar, Superintendent, Mental Hospital, Ratnagiri for his advice and guidance in carrying out this new treatment in mental diseases, and permission to publish these notes in your widely circulated journal.

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The last case in particular seemed a very hopeless one, and I have no hesitation in stating that Dysulin seems to be equally effective in both acute and chronic cases of Bacillary Dysentery.

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Milestones in Diabetic Research

Diabetes is, perhaps, as old as man, but it seems to have attracted more attention only with the advent of modern civilisation. In the earlier part of this period it was believed that diabetes mellitus was either due to sedentary life coupled with over-eating or to intellectual and emotional stress and strain of life. This lay conception of diabetes proved to be not far from truth, although no scientific explanation was available till a later period.

The first milestone was laid in the field of diabetic research when it was discovered in the earlier part of this century that diabetes mellitus was the result of a deranged carbohydrate metabolism. In pursuance of this concept the main treatment of diabetes was directed towards the reduction of carbohydrate intake and the increase of fat to make up for lack of the former. While what was called dietetic treatment of diabetes was practised for a long time, and practised with great enthusiasm, it however failed to give satisfaction, as this

starvation diet was soon found to give rise to extreme degrees of ketosis with its usual sequence of coma and death. Besides, it was also found that a certain amount of carbohydrate was necessary to utilise the glucose converted from the protein of the food.

The second milestone was the attempt to trace the etiology of the derangement of carbohydrate metabolism to pancreatitis, which, in turn, might be brought about either by focal infection from teeth, tonsils or any part of the digestive tract or by diseases like syphilis, tuberculosis, etc. By this time endocrinology made quick strides of progress, and it was thought that pancreatitis resulted in the diminution or absence of pancreatic secretion and that this deficient or absent pancreatic secretion was the real cause of diabetes mellitus. The treatment accordingly, during this period, consisted in giving tablets of whole extract of pancreas, besides the usual dietetic restrictions of the previous epoch.

The third milestone was the discovery by Banting and Best that the islets of Langerhans of the pancreas had an internal secretion which controlled the metabolism of glucose in the body, and that diabetes was caused by the deficiency or absence of this internal secretion. This they called insulin, and their first experiments in the treatment of diabetes by insulin were so successful that it was then hailed almost as a specific for this disease. Meanwhile biochemical investigations of blood advanced at a tremendous pace, and it was soon found that mere presence of glycosuria in the urine would not constitute the only criterion for diagnosing diabetes but that the blood sugar level had to be estimated, and that only when there was a rise of the blood sugar above the optimum level should a case be labelled as diabetic. This proved to be too true, for the excretion of sugar in the urine depended on the integrity of the kidneys as filters. Thus low and high renal thresholds were recognised as factors that would alter the qualitative and quantitative estimation of urine sugar. So, the daily estimation of blood sugar level became a necessary pre-requisite in the treatment of diabetes with insulin, not only for diagnostic and prognostic purposes but also for the purpose of regulation of the dose of insulin for each administration. The two chief merits of insulin in the treatment of diabetes were: it avoided unnecessary starvation of the patient; it appreciably lessened diabetic complications like coma, gangrene, etc. In fact, surgery in the diabetics became a less dreadful affair; insulin was used to avoid the post-operative complications of acidosis and

coma both in diabetic and non-diabetic patients, and to render the diabetic patient fit for operation by temporarily inhibiting the glycosuria by the use of this drug. The physician, however, found that insulin offered no specific cure of diabetes and that the patient has frequently to be replenished with stores of insulin to ward off the possible dangers of hyperglycemia and ketosis. This was so, because soluble insulin was quickly disposed of by the body thus necessitating too frequent a supply, which again meant too frequent injections of insulin—a bug bear to the patient and a trial of patience on the part of the physician. Despite these handicaps in the use of insulin, the life span of even severe cases increased, the sequence of coma and death became rarer, and the patients began to live fairly normal lives under insulin treatment.

The fourth milestone was planted by Hagedorn in 1936 by his discovery of protamine insulin, and later by Scott and Fisher who improved on Hagedorn's protamine insulin by the addition of small quantities of zinc. These newer compounds of insulin were reviewed in the *Journal**, and the basic idea behind these preparations was to create a depot of insulin in the injected area, so that it may be gradually liberated for the use of the tissues and thus avoid too frequent injections of soluble insulin. Thus they afforded slower absorption and prolonged effect.

These are, in brief, the stages through which main researches in diabetes have passed. There is no doubt that the management of diabetic patients has been made simpler, safer and more satisfactory, but the nature of the disturbance of carbohydrate metabolism which underlies the diabetic syndrome is yet not fully unravelled. Insulin is but one link in this chain. Houssey's classical experiment to establish connection between hypophysis and carbohydrate metabolism is another link. This may give rise to new method of treatment by combating the diabetogenic factor of the anterior pituitary by the production or discovery of an anti-hormone. Still later researches reveal that adrenal cortex may be another link in the complicated chain of carbohydrate metabolism. There may yet be many more links: they may be divided between the endocrines and the vitamins which seem to elude even the sledge-hammer blows of modern research. Obviously, the last word in diabetic research has not yet been said, nor insulin is the last discovery in the specific treatment of diabetes mellitus.

* March, 1938, p. 125.

"Indian Medical Review"

The publication, under the above caption, by Major-General Bradfield, at present the Director-General of Indian Medical Service and President of the Medical Council for India, is the first of its kind in this country and it reviews the current events and progress in Medicine and Public Health in the various provinces of this sub-continent. Every page of it reveals the industry and the genius of the author: the industry lies in the patient labour involved in collecting relevant and reliable statistics, and the genius lies in drawing right conclusions. Indeed he has laid the profession under a deep debt of gratitude by this timely and substantial publication. We, now, have a bird's eye view of medical administration, medical relief and medical research in the different provinces of this country, and this will help us in comparing notes to what extent each province has advanced, and to emulate the example of the progressive provinces. We will illustrate this by an example or two. The *Review* records that the province of Madras has 419 subsidized rural medical practitioners, while Bengal has nil and other provinces a mighty little number. The cause or causes of this provincial disparity are worth investigating and remedying. Another illustration: the *Review* records 19 medical schools under the control of the Provincial Governments, of which 6 go to the share of Bengal while the rest have not more than one medical school each on an average. It is certainly a matter which deserves careful enquiry why Bengal should have such a large number of medical schools most of which are even below the standards laid down by the Bengal Medical Council, not to say of the standards laid down by the Medical Council for India. It was said by the Surgeon-General of Bengal at the recent Government of India Conference on Medical School Education that there was no prospect of reducing the number of medical schools in that province, because, he argued, the Government had to face the problem of medical relief to a population of nearly 50 millions. That is one aspect of the question though we do not agree with this view. Madras has got a population of more than 47 millions, so also the United Provinces and Bombay, but these provinces are still able to command sufficient number of medical licentiates for purposes of rural medical relief by having comparatively a lesser, but more efficient, number of medical schools in each of these provinces. And yet it is strange that Bengal, which has 6 medical schools, excluding the private ones, cannot boast of having a single subsidized

rural medical practitioner, while with a single medical school Madras can employ nearly 400 such practitioners for purposes of rural medical relief. Thus the *Review* would stimulate healthy comparison and contrast between different and differing provincial conditions, and this study is bound to be illuminating and instructive to the administrator as well as to the profession and the public.

On other subjects also the *Review* gives a fund of information which can be used for reference as well as for drawing certain conclusions. Of course, the latter is a dangerous pastime, and unless made with care and caution, it may be like opening the Pandora's Box.

We will take chapter II, (10) which deals with Honorary Medical Officers. We find that in the provinces where Honorary Medical Service exists, there is no uniformity of designation of the Honorary Medical Officers, particularly in the junior ranks. We also find that, as a rule, the medical licentiates cannot ordinarily be appointed, even in the junior cadre, except by a special Order of the Provincial Government. This shows that this Service is treated and nurtured as a close preserve for the medical graduates to the detriment of the another class of registered practitioners, the medical licentiates. Since this *Review* was written, much progress has been made in Madras: the present rules do not make much difference between Medical Graduates and Licentiates, and both can compete for the posts in the non-teaching institutions; secondly, the Government of Madras have declared, as their policy, that the Paid Service will be replaced by Honorary Service in future. The second change is almost revolutionary, and we hope that in subsequent publications of this *Review* the exact scope and limitations of Honorary Medical Service, as practised in other countries, will be published so that the Government as well as the profession may have the right idea about similar institutions in other parts of the world. We hold that the present policy of the Government of Madras in this connection is absolutely untenable on various grounds. Every labourer is worthy of his hire and it ill-befits a government to say that they will conduct the medical department on an honorary basis while the members of every other department are paid by them. That will be stretching the purpose and the intention of a honorary service, and exploiting the members of a defenceless profession who have been rather carelessly parading their selflessness and sacrifice. Secondly, it means that the Government is shifting its statutory

responsibility of free medical relief on to the medical practitioner. Thirdly, it means that the Government is teaching the people, already unwilling and unable to pay the doctor, that medical services are something to which they are entitled without any kind of payment. We trust that these aspects of the problem of Honorary Medical Service will be reviewed in a subsequent publication.

We will now come to chapter II (18) which deals with Mission Medical activities. The public, and even the profession, do not seem to recognise the great contribution which the Medical Missions have made to this country in the matter of medical relief, and as most of their hospitals are situated not in the fully hospitalised towns but in mofussils where medical help is scanty and difficult, it may be said with perfect justification that they are facing the question of rural medical relief with sincerity and devotion, and with growing pace and progress. The total annual expenditure on medical work is about 47.62 lakhs, and, certainly, this is no mean contribution to the welfare of this country.

The chapter on Medical Research is an excellent piece of review of the progress so far made in the various researches conducted in this country on special subjects, and this together with "history and activities of important institutions engaged in research" show us the position where we stand in the map of the research world. India has an honoured place in this map, and the much abused Indian Medical Service—abused of course by the politicians—has contributed no mean share in organising and conducting many important and far-reaching researches. We have, let us confess, a warm corner for the Indian Medical Service, not only for the great services they had rendered in the domain of medical research and administration but also for their great sense of justice and fair-play. But for the members of this Service, the medical licentiates of India would have been beaten black and blue and pushed to the wall with no hope of recovery or retaliation. But this is a digression.

The *Review* has not omitted to describe the origin, the strength and the organisation of the Nursing Cadre in India. This is one of the most interesting chapters in the *Review*. Since its publication, again, the Government of Madras have published their curious policy of having a "male nursing cadre" so that in course of time "male nurses may attend on all adult male patients and women nurses on women patients and children admitted into hospitals". The ethics of "male nurses for

(Continued at foot of next page)

CURRENT COMMENTS

(Under this heading will be discussed topics of medical and medico-political interest.)

Definition of Vertigo

Vertigo is, indeed, difficult to define, and Russell Brain's¹ definition seems to be the best that we have till now come across. He defines it as 'consciousness of disordered orientation of the body in space'. He also classifies it under seven ætiological heads: (1) Psychogenic vertigo where the patient's chief complaint is "giddiness." (2) Vertigo due to cortical disturbances. (3) Vertigo of ocular origin. (4) Vertigo of cerebellar origin. (5) Vertigo due to brain-stem lesions. (6) Vertigo due to lesions of the 8th nerve. (7) Aural vertigo. Of these, aural vertigo seems to be commonest. This 'disordered orientation of the body in space' may take a number of forms according to the seat of the lesion. The subjective sense of rotation may be horizontal, oblique or vertical. Or the patients may merely complain of giddiness or a sensation of levitation or sinking. In fact, the subjective and objective symptoms of vertigo are almost polymorphous in character, but whatever may be the cause, it is always the result of disturbance of the labyrinth, vestibular nerve or cerebellum. The treatment is notoriously unsatisfactory. The older treatment was to rely on salines and bromides. The modern treatment consists in the eradication of any source of infection. This means elaborate examination which is not always possible. Lumbar puncture, which some advocate, seems to have no rational backing behind it.

¹ B.M.J., Sep. 17, 1938, p. 605.

(Continued from previous page)

male patients" deserve discussion in future publications of the *Review*. For our own part, we believe it is a great pity that the Hon'ble Minister of Health, Madras, has to fall back on aberrations of originality like "male nurses" to achieve distinction as an administrator.

Exigencies of space prevent us from going into further details about this most interesting publication. It is almost encyclopaedic in information, its arrangement of chapters is intelligent, the delineation of details is cogent and connected, though necessarily brief, and personal conclusions of the author are reduced to a minimum. We hope to see such a publication a regular annual affair.

Alcohol injection of the labyrinth savours of the heroic, but it has its warm advocates. Russell Brain claims that surgical division of the 8th nerve, limited to its vestibular fibres, is practically free from risks and gives excellent results. This is, of course, reserved for resistant cases of vertigo, and can by no means constitute a popular method of treatment. After all is said and done, absolute rest in recumbent position, eradication of any possible sources of infection and sedatives constitute the essential principles of treatment of vertigo, at any rate, of unknown ætiology.

The Streptococcal Tendency

Hindley-Smith² regrets that our attitude towards streptococci is unduly tolerant, if not actually fatalistic, and that we are aroused to activity only when attacked. "The victim of streptococcal susceptibility" he writes, "is faced with a prospect of invalid life" and that "if we are in a position to detect this susceptibility at an early age and to restore him the normal health and immunity we shall, in that alone, have done much." With this end in view he advocates the determination of streptococcal susceptibility by means of a throat swab, particularly among children and pregnant women, and to initiate a course of prophylactic treatment for those who show such a susceptibility. He advocates three series of courses within 24 months, and he believes that the third course will be sufficient to maintain a satisfactory state of immunity for several years. These suggestions are indeed excellent, but are they practical, particularly in our country? Streptococcal diseases are as common in India as in temperate countries. Insanitation and bad social habits have contributed not a little to the rising incidence of streptococcal diseases in this country, and before we can think of mass prophylactic inoculations these two primary causes have to be eradicated. That means time and money, public propaganda and education, of which we have very little in this country. What little of these that is available is spent upon the prevention of the more formidable dangers like small-pox, cholera and plague. Attempts to control streptococcal diseases in this country have, therefore, to wait for better times, but meanwhile, we think that the suggestions of Hindley-Smith may be made applicable to the hospital patients, particularly in children's and maternity hospitals. Half-a-loaf is better than none, and we hope that the hospital authorities in this country would take advantage of the excellent suggestions of Hindley-

² *Medical Officer*, Oct. 1, 1938, p. 147.



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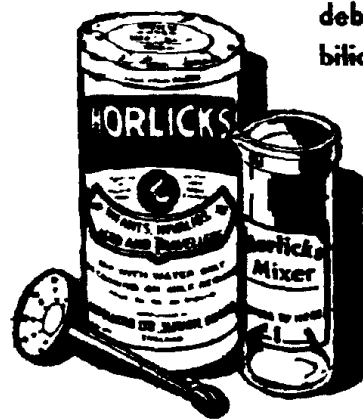
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Smith, and try to prevent, as far as it is possible, the complications of streptococcal infections in susceptible patients by regular courses of prophylactic inoculations, preferably autogenous. Besides this, studies in streptococcal epidemiology have to be undertaken to know and to determine the exact position of this infection in this country.

Sulphanilamide in Gonorrhoea

The treatment of gonorrhoea, both acute and chronic, has for long been unsatisfactory. Local irrigations, various urinary antiseptics, and vaccine have been the sheet anchors in its treatment, but the results have always been varying, slow and uncertain. With the advent of sulphanilamide, gonococcal treatment seems to have taken a leap for the better, and foreign literature, particularly from Germany and America, is almost prolific in the view that after all gonorrhoea has been conquered. In this country, we have not had such an abundance of literature on this subject, but the few articles that have been published so far emphasise the curative value of chemotherapy in this disease. But how does this drug act? Little is known about its action. It is said that it acts directly on gonococci. It is also said that it produces bacteriostasis which may go on to bacteriolysis in favourable cases. So also the urinary antiseptics of yesterday—acriflavin, mandelic acid, caprokal and hexamine. They were not successful because they were not able to reach the gonococci hidden in its impregnable fastness. Is there any proof that sulphanilamide is superior to the older antiseptics in this respect? And unless this is established its claim as a specific in gonorrhoea is, to our mind, very doubtful. At present, its use is based on clinical empiricism of results. It stops the urethral discharge within a few days but this cannot be held as a criterion of cure, particularly in gonorrhoea which is notorious for its chronicity and late complications. What is the best dosage and the best time to start the treatment? The toxicity of this drug prevents its continuous use, and unless a fixed concentration of the drug in the blood is maintained its therapeutic futility is obvious. This is usually overcome by medicine-free intervals during the course of treatment, which in turn means that during this interval the optimum concentration of the drug in the blood cannot be maintained, because of the quick excretion of the drug. This is an obvious disadvantage. Then, as to the best time to start treatment opinions differ: one school of thought believes that best results are obtained only when the

drug is started after 2 or 3 weeks of the onset of the disease, and the other asserts that the treatment with this drug may be started at the earliest possible moment. The consensus of opinion is, on the whole, for withholding the drug in the very acute stage of the disease. These are the problems that confront us with regard to chemotherapy in gonorrhoea, and unless these are satisfactorily settled, it would, we think, be premature to pronounce any definite opinion, for or against sulphanilamide in gonorrhoea. Such an unholy haste is unnecessary, and will only misguide the unwary reader.

The History of Iron Therapy

The therapeutic use of iron is as old as human history, but the rationale of its use is comparatively of modern origin. Russell L. Haden³ gives an excellent account of the historical aspects of iron therapy in anaemia. He states that the earlier applications of iron were more often symbolic of the idea that iron was indicative of strength and was imbued with some peculiar force by Mars, the God of war. It seemed logical that a condition characterised by weakness, as in anaemia, should be treated with a remedy suggesting power or strength. Sydenham (1624-1689) was the first to introduce iron into clinical medicine for the treatment of anaemia with a view to make up the haemoglobin deficiency. His choice was: "Iron or steel filings steeped in cold Rhenish wine." Then Lemely and Geoffy in 1713 demonstrated for the first time iron in blood. Pierre Blaude (1832) emphasized the specific action of iron in chlorosis and suggested iron sulphate with potassium carbonate in large doses. After 1890, there was a setback and inorganic iron was thought to be ineffete, particularly by Bunge who suggested the use of organic iron only. "The most recent in iron therapy," writes Russell L. Haden, "has been the renewed emphasis on the greater potency of ferrous salts. The two fundamental principles of iron therapy, large doses and the use of ferrous salt, now generally accepted, only confirm what Blaude, Niemeyer, Osler and others thought and practised. Such re-discoveries emphasize again our debt to the great clinicians of the past." Long before Blaude, iron therapy in the form of ferrous salts has been in vogue in the ancient Indian Medicine. In fact the chemistry of iron and mercury was far advanced in ancient India. But her age-long political subjection has effectively hidden her ancient discoveries from coming into limelight. It is only recently, particularly after

³ Jour. A.M.A., Sep. 17, 1938, p. 1059.

the publication of P. C. Ray's *Ancient Hindu Chemistry*, that India's past contribution to science is being, if slowly, revealed and recognised.

Rural Medical Relief

Forty-seven lakhs of villages in India! One doctor to a village is almost an impossibility, either now or in future. We have now 40,000 practitioners, out of whom nearly 7000 are in service—Government, municipal and private. The rest of the 33,000 are in private practice. But the major part of this group are almost struggling for existence. They do not get a living in towns, and they would not get it in villages. Yet, there are sapient politicians who plead, day in and day out, that these should move to the villages to render medical aid. This is easier said than done. Who will feed these poor doctors in the villages? The Government would not do it and the villagers have no money to pay. The provincial Governments are indeed committed to the policy of rural medical relief, but they have no programme. We give below the number of subsidized rural practitioners in the different provinces of India¹:

Madras - 419	C. P. - Tried but failed
Bengal - nil	Bihar - 5
Bombay - 5	Orissa - 12
C. P. - 28	Punjab - 8
Sind - Tried but failed	N.W.F. - 16
	Assam - 27 (to be engaged)

Except Madras, it may be said that rural medical relief, as offered by the Government, is practically next to nothing. Why is it so? The subsidy is too meagre to attract any medical man. But more than the subsidy, we think that the most important reason for the failure of subsidized rural medical relief is the way in which these practitioners are treated. They are put under the mercy of the Local Bodies who indulge in party politics and faction. They are not given holidays. They have no security of tenure. In many cases they are treated worse than menials. The Provincial Governments are aware of these facts but they do not interfere in the name of 'local self-government'. Unless the doctors are paid decently, at least Rs. 50 a month, and treated courteously and fairly, there is absolutely no hope of further extension of this commendable scheme of rural medical relief. It is time that the Provincial Governments review the position and refashion it on equitable lines. There is no use of complaining that doctors are not coming forward. No sensible and self-respecting human being will

POST-GRADUATE ARTICLE

Cardiology

•Dr. Jai Gopal, P.S.M.S., Dipalpur
(11)

Sinus Arrhythmia

An ill-nourished child aged about 4 years used to suffer from occasional attacks of transitory fainting. The pulse on examination was found to have a phasic respiratory character, viz., it quickened during inspiration and slowed down during expiration. This periodic irregularity occurring in the heart beat is characteristic of sinus arrhythmia.

NATURE

Under normal condition the origin of the impulses in the sino-auricular node is regular and rhythmical. When there is irregularity in the origin of the impulses in the sinus or when the vagal control is predominant due to reflex stimuli being transmitted from the various and distant paths, the diastole of the heart is prolonged, whereas the systolic period remains constant. Another feature of this arrhythmia is that each auricular contraction is followed by a normal ventricular contraction at the usual interval. From this it follows that this arrhythmia is a whole hearted affair. The pulse quickens when there is deep inspiration and slows down when the chest is deflated. Thus this arrhythmia has a respiratory character, and there is a long pause during the expiratory period in the majority of cases.

In some cases the heart shows phases of rapidity of beat alternating with slowness. The heart is accelerated for a period of 10 or 15 seconds and subsequently there is a similar period of retardation in its action and these phases may be repeated regularly or may occur from time to time.

In nervous apprehensive children an abrupt slowing of the heart is sometimes encountered accompanied in some cases with lowering of

ever work under the existing conditions. The Governments must realise and rectify this if they are really serious about the extension of rural medical relief. Even if they begin now, at the rate of 50 subsidized practitioners per year per province, it will take nearly 50 years more to give something like adequate medical relief to the villages. Even then it may not cover more than half the number of villages in India.

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¹ Indian Medical Review published by the D. G., I. M. S., 1933

THE PLACE OF BRAN IN THE TREATMENT OF COMMON CONSTIPATION

MANY cases of common constipation are traceable to a deficiency of "bulk" in the diet. It is not always easy to obtain fruit and vegetables in sufficient variety or quality to encourage the patient to eat the large quantities required.

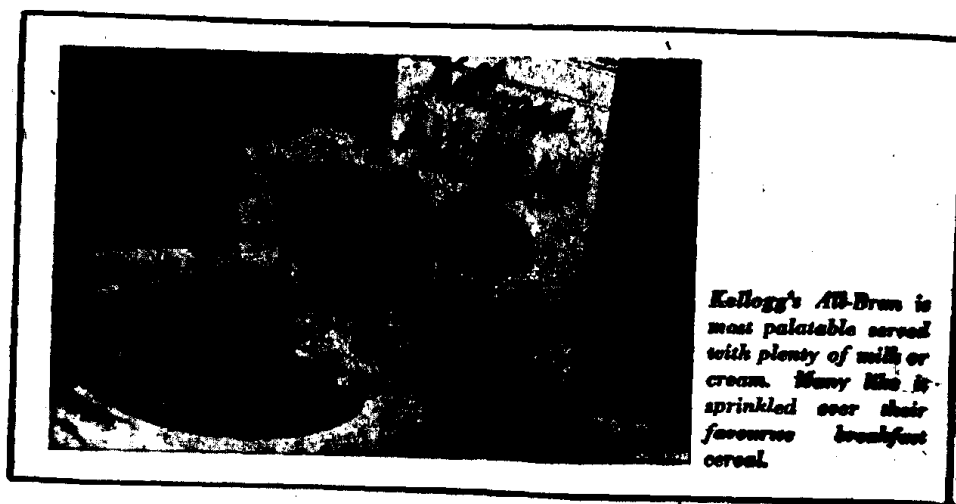
Many nutritional authorities today advise giving wheat-bran in the pleasant form of Kellogg's All-Bran. The fibrous bulk in All-Bran is of the same type as that derived from vegetables and fruit, but breaks down less easily during digestion. Its action is therefore more effective. All-Bran is also an excellent source of Vitamin B and iron.

All-Bran should be taken daily, as a breakfast food, with milk or cream. It is appetisingly crisp to eat, but once ingested, absorbs water and softens like a

sponge. Its mass then gently exercises the digestive tract, and this natural action is of great value where strain is best avoided. The laxative effect of All-Bran is not diminished by its continued use.

All-Bran may be cooked into appetising scones, bread etc. The patient's realisation that it is a food rather than a medicine is often psychologically helpful in relieving cases of chronic constipation. To ensure maximum effectiveness plenty of fluids should be taken, preferably between meals.

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blood pressure, probably due to vasomotor instability. These cases are usually associated with attacks of fainting fits due to cerebral anæmia, the combined result of profound slowing which may be 20 to 40 beats per minute and the loss of vasomotor-tone. These attacks are known as vasovagal attacks.

Occasionally there is a sudden and prolonged stoppage of the whole heart of several seconds duration due to the intensity of the vagal action and the person becomes unconscious. Fortunately these cases are rare. A boy twelve years of age, student of the sixth class of the Dipalpur high school, has been found unconscious on several occasions in the class from which he recovers after a short period of few minutes without suffering any ill effects.

ÆTIOLOGY

It is frequently seen in young children particularly among those who are weak and debilitated. The irregularity may continue up to adult age.

State of malnutrition depending upon convalescence from febrile illness or due to toxic absorption from chronic infective foci, causes delay in the perfection of coordinating mechanism of the heart. This state of imbalance results in the reflex impulses arriving via sympathetic or vagus being responded differently, depending upon the intensity of the stimulus and therefore the heart may either be exceedingly accelerated or profoundly slowed by virtue of sympathetic predominance of vagal hold respectively.

Nervous and other harmful influences on the development of the child such as dietetic errors and metabolic defects are generally associated with this arrhythmia. I know of a grown up child aged about twelve, who would grow pale on the very sight of his father who used to handle him roughly even on the slightest pretext. This child whenever taken to task for any fault would get a trembling fit followed by unconsciousness, which sometimes lasted for several minutes. The pulse was always slow during the period of swoon.

DIAGNOSIS

Sinus irregularities are commonly encountered in young children or adults. This arrhythmia has a respiratory relation and if present no further evidence is needed to confirm the diagnosis. No pulse deficit is found hence the heart rate and pulse rate correspond.

Any factor that excites the sympathetic or dislocates the vagal hold, accelerates the heart beat and the sinus irregularity is abolished. Hence during exercise, febrile period, after inhalation of amyl nitrite or after administra-

tion of atropine which paralyses the vagal nerve endings in the heart, the sinus arrhythmia is abolished. After the cessation of exercise the irregularity again reappears.

As regards differential diagnosis it may be confounded with extra systoles or auricular fibrillation. The extra systoles have no respiratory connection and generally occur occasionally and abruptly and hence are easily recognised. Fibrillation on the other hand is unaffected by exercise and continues unchanged, whereas the sinus irregularity is abolished under the influence of exercise. The reason being that under the influence of exercise the sympathetic holds sway over the heart and the vagal influence is eliminated.

PROGNOSIS

It is a little more than a decade ago that a great importance was attached to this arrhythmia. The children exhibiting this irregularity during the course of any febrile illness or during convalescence were subjected unnecessarily to prolonged stay in bed. The persons exhibiting this irregularity were refused life insurance and were debarred from entering into pensionable services. Thanks to Mackenzie the innocent nature of this irregularity has been clearly demonstrated. It is now considered a youthful type of irregularity of a comparatively harmless nature; and owing to its innocent nature its presence can be disregarded safely. This is because it is considered as a physiological reaction of heart in an imperfectly developed nervous system, resulting in an unbalanced co-ordinating mechanism. The instability in the co-ordination of the heart leaves the heart prone to acceleration or retardation depending upon the nature and the intensity of the stimulus either to vagus or the sympathetic. If sympathetic is excited, tachycardia would be the result and the sinus irregularity will disappear as this form of irregularity cannot persist in a rapid heart. If vagus hold on the heart is strong, there is bradycardia and the irregularity is well marked. The presence of this irregularity indicates in unmistakable terms the presence of nervous instability in the co-ordination of the heart. If during convalescence there is tachycardia this may be due to post febrile myocardial weakness and is therefore a temporary phase, and it is not the result of sympathetic stimulation. The presence of sinus irregularity will indicate the termination of pathological condition, hence any undue restriction on the patient may be relaxed. Further its presence with bradycardia after any febrile state may be interpreted as evidence of recovery.

Another point worthy of consideration is that the presence of sinus arrhythmia indicates the condition of heart. Its presence implies that the heart is working at ease and is free from strain, and is therefore capable of responding to stimuli, no matter how trivial they may be. Now if after an attack of acute rheumatic fever, during the course of which the heart rate is rapid owing to fever and high rate of metabolic activity, and the sympathetic is in complete charge to the entire exclusion of the vagus, and the sinus arrhythmia appears during convalescence, it means cessation of acute infection and the freedom of myocardium from weakness.

TREATMENT

In most cases the irregularity is entirely ignored because it is of an innocent nature. In children suffering from malnutrition, dietetic errors require attention and such other measure as are necessary to improve the general health be substituted. In children showing extreme nervous imbalance, efforts be made to ensure healthy habits with a view to correct faulty development of the nervous system. Rest, massage and freedom from harmful influences, if any, will suffice and in course of time as the child grows the co-ordinating mechanism of heart will assume perfection.

FOREIGN MEDICAL NEWS

Our London Letter

(From Our Own Correspondent)

POVERTY AND NUTRITION

IN the House of Commons on Nov. 14th, Mr. PETHICK-LAWRENCE, on behalf of the Labour Opposition, moved an amendment to the address in reply to the King's Speech regretting the absence of any reference to the serious problem of unemployment, and the failure of His Majesty's advisers to recognise that the real strength and prosperity of the people depend upon the full use of the resources of the country and upon an equitable distribution of wealth. The Labour Party welcomed the announcement of the new cancer campaign, but they thought that a still more urgent need was the taking of drastic steps to cure the cancer in the body politic of the State itself. There was an artificial shortage of food, supplies from abroad were being excluded, home output was being limited, and in some cases food was being deliberately destroyed. If this policy went on it would render the inventions of science and the increased command over nature which man had acquired, and the abundance which they should bring, a curse rather than a blessing to mankind. The scientific men who had brought the

question of malnutrition to the front had rendered a valuable service to mankind. Dr. M'Gonigle, the medical officer of health for Stockton-on-Tees, had said that city children were five times as great sufferers from anaemia as the children of the professional classes. City children were ten times more liable to bronchial diseases than children of the professional classes. Sir John Orr had shown that the average height of a large sample of boys taken from the public schools was six inches greater than that of a similar sample of boys from the elementary schools. Mortality figures for this country given in a book published by the League of Nations showed that the prosperous districts had a corrected death-rate of 30 per cent below the average, whereas the poorer districts showed a figure of 40 per cent. higher than the average. He did not think that anyone denied that malnutrition was largely responsible for these differences. The Prime Minister in his speech the previous week had suggested that one of the main causes of malnutrition was not lack of purchasing power, but ignorance and possibly negligence on the part of the mothers in the spending of their money. That was a very comfortable doctrine, but the statements of medical officers did not substantiate it. The position of the Government in regard to the condition of the people was that when money had to be expended on rearmament, there was necessarily a conflict between guns and butter.

Mr. ELLIOT, Minister of Health, replied that it became more and more difficult to disentangle the tasks of peace from the tasks of war, even with the great peaceful Ministry which he represented, but the King's Speech gave proof of the effort of the Government to produce both guns and butter.

Last month, Mr. ELLIOT continued, the number of houses completed by local authorities was 8200 and the number of houses confirmed by the Minister during the month was 6510. Both these figures were the highest on record. The original slum clearance programme covered 267,000 houses. They had nearly doubled that. The latest figure was 465,000 and it was still rising. Of these, 218,000 had actually been completed and they had now approved for slum clearance purposes the building of 309,000. Over 1,000,000 people had been moved out of the slums at the rate of 1,000 per day. He wished he could say as much for Scotland. Despite the prior concentration on slum clearance, houses for the abatement of overcrowding were being approved and completed at the rate of 1000 a month.

Mr. ELLIOT joined with Mr. PETHICK-LAWRENCE in the tribute he had paid to the work of eminent scientists on the question of nutrition. The interest taken by the Government in this question was ridiculed by the fact that the number of free solid meals provided by the local education authorities had been more than doubled in the last ten years. The milk-in-schools scheme had proved a triumphant success. In the last year 200,000 more children had been drinking milk under the scheme, of whom some 50,000 or more had been

getting it free. Apart from the question of sufficiency of food there was also the wise choice of food. The Labour Party were too apt to suppose that any statement made by a scientific man about the choice of food was meant to cast a reflection on some class of the community.

The Government hoped to introduce a Bill before Christmas which would make provision for extended arrangements for the treatment of cancer and they anticipated that modern methods of diagnosis and treatment, either by X-rays or by operation, would be made available to all who suffered or—and there was an even larger number of these—who feared that they suffered from this disease. At present only one-quarter of the cases which might benefit by such treatment did in fact receive effective treatment on modern lines. That was a figure which could not be tolerated. It was a blot on our public health, which he was sure all sections of the House would cooperate in removing. He had received assurances that the great research organisations would not only continue but increase their efforts. How to persuade early cases to attend the centres was one of the problems which the Ministry would have to face; but just as public opinion had altered in regard to tuberculosis and other diseases they hoped that sufferers from cancer would learn that an early visit to one of these centres might make a complete cure possible. Money would be made available to enable the National Radium Trust to acquire more radium, so as to enable the necessary treatment to be given. An option on this radium was purchased before the Government made the announcement, so as to avoid profiteering. He had been able to assure the Chancellor of the Exchequer that the life of radium was about 2500 years, making it a fit subject for a small loan. He was at present closely engaged in discussions with the various bodies and organisations concerned.

Turning to the question of maternal mortality, Mr. Elliot paid a tribute to the spirit in which the local authorities had cooperated with his Department. The Ministry had also kept in close touch with the British Medical Association and the Central Midwives Board. He had followed with interest the spectacular results which had been obtained from the newer methods of treatment, particularly in cases of puerperal sepsis. They were making good progress under the Act of 1936. Nearly 7500 full-time midwives were now employed by local authorities in England and Wales under that Act and it had been possible already to make orders prohibiting any person who was not a certified midwife or a registered nurse from acting as a maternity nurse in 44 areas out of 188. It was also worth while to note that in 1937 the maternal mortality-rate came down to 3.13, which was a low record. (*Lancet*.)

FIBROSIS OF THE LUNGS

Dr. G. T. Herbert delivering his Presidential address on the above subject at the Tuberculosis Association, London, on 18th Nov. 1938, said, with particular reference to the non-tuberculous

varieties, that apart from cases of scoliosis, radiological appearances were liable to be fallacious when films were read without reference to the clinical condition of the patient and without proper understanding of the pathology of fibrosis. Since fibrosis of the lungs had several causes, taking different forms with each, it was necessary, he said, to specify the predominant type—perifocal, peri-bronchial, or interstitial—in speaking of fibrosis. The chief diseases which caused fibrosis were each associated with one type: chronic bronchitis with peri-bronchial fibrosis; bronchopneumonia with interstitial; tuberculosis and silicosis with perifocal. Analysing his cases he made the following generalisations about the radiological diagnosis of fibrosis:

- (1) Evidence of contraction of the lung, provided the collapse is not lobar or lobular.
- (2) Lenear shadows are no evidence of fibrosis.
- (3) Multiple nodular markings, unless sharply defined, indicate inflammation rather than fibrosis.
- (4) Neither density nor thickness of the wall of a round cavity could, in itself, be regarded as evidence of fibrosis.

Our American Letter

(From Our Own Correspondent)

PNEUMONIA DEATH RATE AT LOW RECORD

Pneumonia runs in seasonal cycles, rising from a low point in September to a maximum in the early months of the year, and finally turning to a low level in August. In the last cycle, just completed, the death rate from this cause among their policyholders was, according to a statement of the Metropolitan Life Insurance Company, 28 percent below the level of the preceding five cycles, which themselves had established exceptionally low rates.

In the 12 months preceding September 1938, they registered the unprecedentedly low rate of 60 deaths from pneumonia and influenza per 100,000 insured persons. This figure stands in bold contrast with the rates for the five previous years with an average of 83 for that period. Translating this mortality decline into lives saved and applying this standard to the population as a whole, it signifies that approximately 30,000 persons in the United States have been spared, in one year alone from death by pneumonia or influenza.

According to the conception of the Metropolitan Life Insurance Company, the mortality rate was reduced by the prompt and adequate use of the appropriate serum. It is true that there are at least 30 types of pneumococcus to fight, but ordinarily most cases fell into relatively few types, for which effective serum, fortunately, is already available. Research is actively in progress, and it may be expected that in due course effective serums against some of the different types will be developed.

But it is well to be continually reminded, the statement of the Metropolitan Life Insurance Company points out, that reliance cannot be placed on the use of serum alone. It is impossible to exag-

gerate the importance of nursing in pneumonia cases and of early and skilled attention to these patients. The neglect of a serious cold may presently find the patient in a critical condition when even with the best of care and most modern treatment the outcome may become problematical.

DEVELOPMENT OF OUT-PATIENT DEPARTMENTS

The trend of development of the Out-patient Departments of Hospitals in Greater New York can be seen from the following table:—

Years	Population of Greater New York	Number of Out-Patient Department Patients	Per Cent of Population Treated in Out-patient Department
1920	5,686,249	927,421	16.3
1929	6,881,982	1,652,937	24.0
1930	7,014,649	1,874,750	26.7
1931	7,090,089	2,080,580	28.6
1932	7,218,223	2,229,405	30.9
1933	7,346,007	2,279,307	31.0
1934	7,473,791	2,328,672	31.1
1935	7,294,894	2,356,651	32.3
1936	7,363,624	2,372,866	32.2

So far New York physicians gave and give their service free to the Outpatient Department. Now they are seeking to obtain payment for physicians in dispensary service. The Commissioner of Hospitals has agreed that dispensary physicians should be paid and will incorporate the necessary amount to do this in his budget. According to the *New York Medical Week*, however, there is still little hope that the necessary appropriation will be made.

UNBIASED STUDY OF ALCOHOL PROBLEM

A new organization, to be known as the Research Council on Problems of Alcohol, composed of nearly a hundred distinguished scientists and educators from various parts of the country, intends to make a thorough, unbiased and strictly scientific investigation of the problems related to the control of alcoholic beverages and to seek solutions through a programme of unprejudiced research and education. Details of the programme were given by Dr. Karl M. Bowman, Chairman of the Executive Committee and Director of the Division of Psychiatry at Bellevue Hospital and Professor of Psychiatry at New York University. Prohibition was neither successful, nor was it repealed.

The Research Council will conduct research, arrive at conclusions based on research, present the facts in suitable form to interested groups and encourage intelligent discussion of the facts. The council will not arrive at conclusions based on assumptions or prejudiced opinion, engage in propaganda, lobby for liquor control laws or participate in political campaigns. A well-organized body of facts is needed in regard to (a) the effects of alcohol on the individual, (b) the effects of alcohol on society and (c) the effectiveness of various measures of industrial and legal control which have been attempted or which may be proposed.

When the facts have been ascertained through research, two kinds of remedial measures may then be developed: educational measures and measures of control.

Whether the findings of the various studies are favourable or unfavourable to the use of alcoholic beverages they will be published without prejudice according to the Committee's statement.

EXPERIMENTAL PRODUCTION OF OVULATION

No one has actually seen a graffian follicle rupture nor has any one heretofore succeeded in producing ovulation in women. According to the *Journal of the American Medical Association* recently a gonadotropic substance has been found in the serum of pregnant mares and sufficiently purified, it is thought, to bring about ovulation in women. This substance was first observed by Cole and Hart in 1930 in high concentration in the serum of pregnant mares. Experiments have shown that its action closely resembles that of pituitary extracts. It produces ovulation, luteinization and follicle stimulation. A highly purified preparation of this gonad-stimulating principle was prepared by Cartland and Nelson, and biologically assayed.

Some unusual observations of the effects of this substance have been made by Davis and Koff at the University of Chicago. They administered the substance to women who were awaiting abdominal operations for a variety of pathologic conditions. The gonadotropic substance was given intravenously on varying days of the menstrual cycle; then the ovaries of these women were observed later when they came to undergo laparotomies.

It was observed that ovulation had occurred recently in about half of the women to whom this substance had been given. The microscopic studies made of these ovaries revealed corpora lutea present in earlier stages than had ever before been described. The authors believe that this substance is capable of causing rapid follicle growth; apparently, under this influence, the follicles ripen, rupture, release their ova and are converted into corpora lutea all within 24 to 36 hours. Much more experimental work is necessary before the clinical application of this product can be adequately defined. Its use under very carefully supervised conditions, the *Journal* points out, may prove to be efficacious, however, in the treatment of patients in whom ovulation and follicle growth are at fault.

Our German Letter

(From Our Own Correspondent)

TULAREMIA IN GERMANY

According to a report of the National Health Bureau the first investigations of possible tularemia among game animals were made during the hunting season 1930/31, and simultaneously investigations were made to discover unrecognized cases of tularemia in man. In March 1931 a case of

INDIAN MEDICAL NEWS

(From Our Own Correspondent.)

A SUB-ASSISTANT SURGEON IN TROUBLE

The Government of India Act was invoked in the Lahore High Court (Oct. 20, 1938) when an important point of law, whether sanction of the Governor was necessary for launching proceedings against a Government servant for any act done before the advent of Provincial Autonomy, was discussed before the Chief Justice and Mr. Justice Blacker.

The point arose over the prosecution of a sub-assistant surgeon of Dera Gazi Khan, who following trial on charges of criminal breach of trust and falsification of accounts, was awarded six months' rigorous imprisonment. When his appeal came up before the Sessions Judge, an objection was raised on his behalf that under section 270 clause (1) of the Government of India Act, 1935, the sanction of the Governor was necessary for launching a prosecution against him. This section reads as follows:

"No proceedings, civil or criminal, shall be instituted against any person in respect of any act done or purporting to be done in the execution of his duty as a servant of the Crown in India or Burma before 1st April, 1937, (when the Government of India Act came into force) except with the consent of the Governor of the Province, in his discretion."

It was argued on behalf of the appellant that the acts complained of were done in the execution of his duty as a servant of the Crown and therefore the consent of the Governor was necessary.

The Public Prosecutor submitted that the acts were not done in the execution of his duty as a servant and that therefore no sanction of the Governor was necessary.

The Sessions Judge, however, held that since the requisite sanction was not there, all the proceedings taken were without jurisdiction and therefore void. Accordingly, the Sessions Judge accepted the appeal and acquitted the appellant.

The Advocate-General moved the High Court in revision.

The Chief Justice and Mr. Justice Blacker, after hearing arguments of both the parties, accepted the Government petition holding that the consent of the Governor was not required in this case.

Experiments with prolan are interesting in this connection, i.e., with the hormone of the anterior pituitary gland which accelerates the growth of plants much more intensively when infra red rays are used rather than when ultraviolet rays are used. Further experiments with mice demonstrated that there are distinct differences of the different phases of oestrus corresponding to the irradiation with different kinds of rays such as infra red light and ultraviolet light. Thus the good effect of infra red rays in genital hypoplasia, which is already known, can be understood even better.

tularemia was reported in an employee of an institute of venery who apparently had become infected in 1928 while dissecting infected game animals. This as well as another case were of the ulcero-glandular type and were probably acquired by direct contact with infected animals. The first case of tularemia in which the diagnosis was confirmed by culture of the causative agent was of the ulcero-glandular type; the contagion had been transmitted by insects, possibly ticks.

In old Germany, at present, tularemia is not endemic, but this condition could be quickly changed as it changed in Austria and Czechoslovakia. Recent research work, particularly in collaboration with the Swedish Institute of Bacteriology at Stockholm have shown that the serobacteriologic identity of the pathogenic organisms may be differentiated on the basis of geographic origin, as American, Swedish, Turkish, Czech or German. A quick blood test for serial examinations of man in diseased regions has proved useful.

In Germany so far only a few cases of tularemia have been observed. In view of the high infectiousness, the same regulations which govern bubonic plague research have been made applicable to tularemia research in German laboratories. To prevent entrance of tularemia from abroad, the importation into or transit through Germany of both living and dead hares and rabbits from Czechoslovakia, Austria, Hungary, Yugoslavia, Rumania, Bulgaria, Albania, Greece and Turkey was banned. Later on the ban was modified. It now applies only to countries where an epidemic of tularemia occurred during the last few years.

COSMOBIOLOGY AND PREGNANCY

Dr. Kirchhoff, of Kiel, told the Berlin Medical Society about his research work on the meteorological influence on sex life and pregnancy which he undertook together with professional meteorologists and statisticians. He believes that the influence of cosmic factors on the sex life of woman has been underrated for decades. He could demonstrate that menstruation is particularly frequent at the time of full-moon and new moon. Maybe there is a certain connection between the onset of labour and the tides. On the other hand, he could not confirm the statement of midwives that anaesthetics, pituitary extracts, etc., in labour are most efficient in the period between high tide and low tide. He found, however, a peak of births at the peak of high tide.

A typical meteorotropic disease is, according to Kirchhoff's investigations, eclampsia. Barometric pressure is furthermore related to the frequency of births and the number of contractions during labour. The peak of the frequency of hyperemesis is regularly in winter. The average duration of pregnancy varies according to the season: it is said to last 285 days in summer as compared to 277 days in winter.

A percentage of 48% of the births take place by day as compared with 51.2% by night. Most labour starts at the time between 8 and 11 p.m. Consequently the influence of light on labour is obvious.

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Their Lordships sent back the case to the Sessions Judge to decide it on its merits.

The Lahore High Court has subsequently permitted an appeal to the Federal Court regarding the interpretation of section 270, and the later will hear the same on Feb. 6.

SELECTION OF COOKING VESSELS

Both the medical and the lay public will be indebted to the following communique issued by the Minister of Health, Madras on Nov. 23, 1938. There seems to be no doubt that the conclusions drawn in this communique are quite reliable and useful. He writes:

Vessels for storing and cooking food form an important equipment in an Indian household. The vessels generally used are: (1) earthenware and soap-stone, (2) porcelain and enamel, (3) glass and (4) metallic.

Earthenware and Soapstone Vessels.—Vessels made of earthenware are not only the cheapest but most hygienic. Practically they are unaffected by exposure to air or to the process of cooking. They do not, unlike metals, enter into chemical combination with the food elements and deprive the food of its flavour. The only disadvantage is that these are easily breakable and require thorough and careful cleaning as the pores are not readily accessible. After use they should be thoroughly cleansed and exposed to air and sunlight for drying till they are again required for use.

Porcelain and Enamel Ware.—Porcelain is not suitable for heating purposes. Regarding enamel wares, only the better and costlier variety should be used. The glaze or outer white or coloured coating of these vessels sometimes contains fluorides and oxide of antimony which are poisonous. Fluorides give rise to teeth troubles.

Glass Vessels.—These are not suited to our conditions. They break easily leaving sharp edges which would be a source of danger especially to children. If these break, people should see that they are all collected carefully, especially the small particles, with a wet towel, and thrown into public dust-bins or in a place far away from human habitation.

Metallic Vessels.—As far as possible everyone should use only the minimum number of metallic vessels. Metals are all liable to corrosion, i.e., they are transformed on exposure to air and water into different chemical substances. These are more readily attacked by the food or water with which they come in contact. Under the conditions of cooking, the metals themselves may rapidly go into solution in the food. The salts so dissolved might act injuriously on the health. However, if the metal surface is kept quite bright and polished it is less liable to be attacked by the food constituents. The South Indian method of giving a coating of mud or starch before they are placed on the hearth for cooking and also the practice of cleaning first with a coating of tamarind and then scrubbing with ashes, are based on scientific principles and should be adhered to.

Lead Vessels.—Of all the metallic vessels that contain lead are the most insidiously poisonous in character and consequently to be eschewed altogether. In the southern districts of this Province, especially in Tanjore, Trichinopoly and Tinnevely, women vie with one another in getting as many of these lead vessels (familiarily known as 'Iyya chombu') as possible. These, though supposed to be made of tin, actually contain lead in varying quantities. Lead salts are poisonous and some of them formed in the process of cooking, especially soups (sambar, rasam and the like) in lead vessels impart a sweet taste. Lead salts are cumulative poisons. Their baneful effects are not produced at once. They are not thrown out of the system but begin to accumulate little by little and ultimately are locked in the tissues and when sufficient quantity has collected, cause anaemia, constipation, stomach pain and a host of other ailments.

Copper, Brass and Tin Vessels.—These, if kept clean, serve well for storing and transporting water, but copper and brass are not to be recommended for cooking purposes. Milk, if boiled in copper vessels, loses its flavour and is deprived of part of its vitamin A. Brass vessels intended for cooking rice are generally given a tin coating. For reasons stated above, the tin should be quite free from lead. Further tinning of vessels is ordinarily delayed till the tin coating is peeled off. The corrosive action with such a pitted surface is considerably increased and more of the metal is likely to be dissolved by food juices. It is essential that tinning should be done at very frequent intervals to avoid this possibility. Besides, tinkers generally add lead or zinc or both in tinning for the sake of cheapness and easier workability. These are poisonous and consequently the tinkers should not be allowed to use their own 'tin' for this purpose.

Aluminium Vessels.—These can be used for boiling milk and water. Generally speaking aluminium is the least toxic of the metals commonly used. If used for cooking especially in presence of salt and tamarind, they are rapidly attacked and lose their lustre which cannot be restored.

INTERESTING NEWS ITEMS

Legislation is being contemplated by the Government of Bihar to deal with insanitary conditions in factories and other industrial centres and establishments especially with regard to the disposal of refuse matter and drainage. It is also learnt that the Government will shortly introduce a scheme for fighting Kala-Azar in selected areas where there is great incidence of that disease. The Government have already taken up anti-malarial measures in Muzaffarpur District for fighting malaria.

Dr. K. V. Giri, M. Sc., A. I. I. Sc., D. Sc., of Nutrition Research Laboratories, Coonoor, has been awarded the degree of Doctor of Science of the Calcutta University in recognition of his investigations on Enzymes, a branch of chemistry. Dr. Giri's scientific investigations have received international recognition. Recently he was invited by Professor Carl Oppenheimer of Berlin, to act as

REVIEWS

Everyday Surgery.—By Lambert Rogers and A. L. d'Abrew. Published by Edward Arnold & Co., London. Edition 1938. Price 12/6 net.

This is a book, in a concise form, dealing with "everyday" surgical practice of the general practitioners. It is not only concise but the subjects also are well arranged and presented. Elaborate details are rightly omitted, so also special branches of surgery such as ophthalmology, gynecology and otorhino-laryngology. We have no doubt that the book will make a special appeal to the general practitioners, inasmuch as it covers almost all the surgical diseases commonly met with, and deals with them in an eminently practical manner. We are almost sure that this will be their surgical "guide, philosopher and friend."

Chronic Diseases of the Abdomen—a Diagnostic System.—By C. Jennings Marshall. Published by Chapman & Hall, London. Edition 1938. Price 25s. net.

"The abdomen, for the purposes of clinical investigation, extends from the scalp to the sole! In the cranial vault may be the metastasis of a hypernephroma, and the loss of the Achilles jerk may be the only obvious indication of tabes dorsalis." We entirely agree. Both medically and surgically, as well as gynecologically, abdomen offers a fruitful field of diagnostic work. To bring under one cover so vast and confusing a subject as chronic diseases of the abdomen and the method of diagnosis, is, we always fancied, a super-human task. But having gone through this book we feel the author has succeeded in really achieving the impossible. He has vision and clarity, adroitness and ability, and a fine sense of proportion. His style is vigorous but concise; his grasp of facts is profound but he does not confuse them with theories, which a less experienced author may be tempted to take as granted facts. We consider the book under review as a masterpiece in abdominal diagnosis, with, as yet, no rival in the field. It is profusely illustrated. Its typography and get up are excellent. We heartily recommend the book to the physician and the surgeon alike, because it deals with the abdominal diagnosis in a really comprehensive sense.

Fifty Years of Bayer Remedies - 1888 to 1938.—This handsome book handsomely presented and illustrated deals with the greatest discoveries by the House of Bayer since February 1888. There is hardly a chemical or medical problem which has not been studied in the Bayer research institutes. The book may be perused with benefit by our readers and they may have a free copy of it by writing to Bayer Remedies Ltd., Bombay, Calcutta, Madras or Lahore.

Midwifery—By Ten Teachers.—Edited by Clifford White Comyns Berkeley & Frank Cook. Sixth edition 1938. Pp. 672. 262 illustrations. 18s. net. Edward Arnold Co., London.

(Continued from previous page)

a collaborator for a high class scientific journal, "Enzymologia."

A recent investigation undertaken by the Bio-chemical Standardisation Laboratory, (1937) Calcutta, reveals a serious state of affairs regarding the quality of 'Ergot' preparations that are daily being used in India. Of the samples examined 103 were indigenous and 27 foreign. Of these 112 samples, 86.15% were found much below strength and in 58 or 44.61% no active principles whatever could be detected.

The present edition, after the reprint in 1937, should be welcome to a large number of students preparing for the final qualifying examinations. Though there is a change in the personnel of the authors their places have been rightly filled up by eminent teachers on the subject. The book maintains its usual reputation. The present edition is brought up to date by a thorough revision, and many illustrations have been replaced and the radiograms increased in number. It contains all the recent advances in the field of obstetrics and is up to date in the lines of treatment advocated. We strongly recommend this book to all those students preparing for final examination. The printing, illustrations and get-up leave nothing to be desired and much credit is due to the publishers K.S.S.

Clinical Obstetrics.—By A. L. Mudaliar, B.A., M.D., F.C.O.G. Rs. 18. (27s. net.) Pp. 819. 1938 edition. Messrs. Oliver & Boyd, Edinburgh and London.

This book runs to 819 pages with 213 text illustrations and arranged on modern recognised lines covering the whole subject in an excellent and practical manner. The vast experience of the author as a clinical teacher, and his personality pervade the whole book. The masterly presentation of the subject and the well-balanced statements on obstetrical emergencies render the book eminently suitable to the students, post-graduates and the general practitioners alike. Most of the chapters deal largely with the clinical aspect, and are not, fortunately, burdened with unnecessary details.

The author has included another presentation "Glabellar Presentation." This is likely to add to the confusion of the student, and the old nomenclature "Incomplete Brow Presentation" seems to the reviewer a simpler one. The author recommends the administration of whole pituitrin though the oxytocic principle of the posterior pituitary gland, "pitocin," was isolated 10 years ago. Ergometrine is not mentioned in the book. The recent advance in the prevention and treatment of puerperal infection by the use of sulphanilamide finds only a very brief reference. Each section is considered mainly from a clinical standpoint but not illustrated by any clinical cases.

The introduction on obstetric operations in section VII, chapter XIV discusses very clearly the attitude to be adopted by the obstetrician when operative delivery is contemplated and we commend this chapter to the specialist and the general practitioner. The appendix serves as an useful addition to the book by dealing with the following subjects: (1) transfusion (2) anaesthesia in labour (3) endocrinology in obstetrics.

The book obviously represents the "Giffard School of Obstetrics" and adopts throughout a healthy conservatism characteristic of the best practice in midwifery. The author by bringing out this book on clinical obstetrics has not only supplied a long-felt want but has, in addition, rendered a service to the science and art of obstetrics. The printing, illustrations and get-up are excellent. K.S.S.

The Abnormal in Obstetrics.—by Sir Comyns Berkeley, and others. 1938 edition. Pp. 525. 18s. net. Edward Arnold & Co., London.

The authors claim this volume to be useful to those ambitious of passing one of the higher examinations with a view to specialising in the subject. The chapters are well arranged and the various abnormalities are very clearly explained. The lines of treatment advocated have the authority of the three renowned obstetricians of international fame though some of the lines of treatment advocated are controversial. For instance, in chapter XXV, difficulty in breech delivery—page 274—use of blunt hook or fillet in delivering a breech with extension of legs; in chapter XXXI post-partum hæmorrhage—

page 312: manual evacuation in all cases of blood clots from the uterus; page 342: hot intra-uterine douche after manual removal of placenta or after the cavity evacuated of blood clots. The authors have defined the limitations in the adoption of the above lines of treatment and have also detailed the risks. In institutional practice in the hands of experts these risks are present and they will be present to a very large extent in domiciliary practice in the hands of general practitioners who are more often summoned to meet such obstetric emergencies. The authors have rightly condemned intra-uterine exploration, douche and curettage of the uterus in the treatment of puerperal sepsis. Latest researches on puerperal sepsis done in recent years at Queen Charlotte Hospital in connection with the mode of infection and the carrier problem have been included as also the latest in the line of treatment of puerperal sepsis. Use of sulphanimide has been included with due emphasis on the dangers of indiscriminate administration.

The value of the book is considerably enhanced by the inclusion of a comprehensive bibliography for easy reference to the current medical literature under each chapter. We draw the special attention of the readers to chapter XVI: mental disorders in association with child-bearing, and to chapter XXXVIII: blood transfusion and the administration of other fluids by non-oral routes. The authors have dealt with the subject in an admirable and masterly manner. We have no hesitation in recommending this book to all the members of the profession who have to deal with obstetrical emergencies. The printing and get-up leave nothing to be desired.

K.S.S.

(concluded from p. 56)

remained absent after a month of observation, in the course of which the ulceration had been smoothed out. This and three other cases, in which general and local treatment was used, having convinced the author that the local treatment was the more effective, he used local treatment exclusively in the other ten cases of dermal leishmaniasis. In four cases he tried half doses (0.05 Gm. of atabrin) repeated twice at three day intervals. Since the local tolerance was excellent, he later administered 0.1 gm. of atabrin dissolved in 1 or 2 cc. of distilled water, depending on the size of the ulceration. This treatment was followed by permanent cure with disappearance of the protozoans, even after a single injection. The author concludes that it is unquestionable that this treatment has advantages over all of those hitherto employed.

We are requested to announce that Ophthalmic Post-graduate course in Dr. Agarwal's Eye Institute, Delhi, begins from 1st September 1939 and the fee for the same is Rs. 100. Following is the syllabus of the course:

(a) Anatomy and physiology of the eye. Objective and subjective examination of the eye. Ophthalmoscopy and retinoscopy. Perimetry and the use of other eye instruments. Eye diseases—their diagnosis and treatment. General Optical Principles. (b) Ocular Operations. Eye manifestations in general diseases. Bates system for the prevention and cure of eye defects without glasses. How hydropathy and physical treatment help in eye diseases. Unani and Ayurvedic systems of treating eye diseases. Ocular Sun therapy. Treatment of errors of refraction. Treatment of acute eye diseases. Treatment of chronic eye diseases. Yogic practices for the improvement of sight.

BENGAL IMMUNITY LABORATORY

Since its establishment, the Bengal Immunity Co., Ltd., has been serving the medical profession in this country by their Bio-logical, Bio-Chemical and Injectule products of highest purity and standardisation. Marked developments of the wonderful Laboratory of the firm and its various Research departments have been made in recent years, while new lines of investigation have been taken up not only to meet the exigencies of the time but also to explore hitherto untrodden fields in the cause of Medical Science. The fully equipped Laboratory, replete with all the most up-to-date and improved apparatus, is really an acquisition to be proud of in this country.

Injectules of various kinds prepared of chemically purest drugs are put in the market by this firm. The dosage is most accurate and the acidity of the solutions approximates to the pH of the blood; thus the products have gained high appreciation of the medical profession for their satisfactory results.

Sera and Vaccines are prepared from highly virulent and smooth strains collected from all the provinces in India and abroad, and their action, for this reason, in our tropical climate is most satisfactory.

Besides Sera and Vaccines, Gland products, Colloid preparations, Haemogen Combinations: Malt Combinations such as Vino Malt, Bi-Perol and other specialities like Bi-Agaroil, Bi-Diastase, Bi-Sulphonamide, Bi-Phlogiston, Petromulsion etc., are being used by doctors in their daily practice with great success.

It is a pleasure to remark in this connection that Dr. D. V. Venkappa, President, All-India Licentiate's Conference, Gauhati, who visited the Laboratory, has been highly impressed about the activities of this well established concern. He was shown round the whole Laboratory and he felt extremely delighted to observe the Scientific methods of work carried on in different sections and spoke highly of its works. He wished this well-known enterprise a continued success.

ADVT.

EXTRACTS

The Aetiology of Nausea and Vomiting in pregnancy: J. William Finch (*Jr.A.M.A.*, Oct. 8, 1938, P. 1360) believes that nausea and vomiting accompanying pregnancy is an allergic reaction of the patient to the secretion of her own corpus luteum graviditatis. These symptoms develop at the same time at which the corpus luteum of pregnancy reaches an appreciable size. The symptoms disappear at about the time the gland is known to begin retrogressive changes. In a series of patients with nausea and vomiting of pregnancy in varying degrees of severity when injected intradermally with from 0.02 to 0.03 c.c. of progestin in oil, a cutaneous reaction developed directly proportional to the severity of the symptoms. A control series of patients who were not nauseated and in the pregnant state gave negative cutaneous reactions when tested in the same manner. Patients treated with subcutaneous corpus luteum extract and progestin along the lines of allergic desensitization were gradually relieved of their symptoms. A high percentage of patients with nausea and vomiting of pregnancy either had other diseases of allergy or gave a family history of allergy. Hence the author concludes that desensitization may be accompanied by injection of graduated doses of progestin, thus alleviating or stopping the patient's symptoms, and that intradermal test may be done even before pregnancy to find out whether the patient would develop nausea and vomiting when pregnant.

Sulphanilamide Treatment of Trachoma.—Fred Lee (*Jr. A.M.A.*, Oct. 8, 1938 P.1371) started sulphanilamide treatment with 13 patients who had been under continuous treatment for trachoma for periods varying from one to seven years and who were picked for the purpose from a group of trachoma patients. They were given 1/3gr. of sulphanilamide per pound of body weight and an equal amount of sodi bicarb for ten days. Then the dose was decreased to 1/4 gr. per pound of body weight for 14 days. The improvements noted were: (1) Cessation of lacrimation within 24 hours (2) Loss of photophobia within 28 hours (3) Improvement of vision within 72 hours in cases of pannus. (4) Paling of the conjunctiva (5) Paling of the trachomatous patches and flattening of the granules and follicles. (6) Conjunctiva assumed its normal velvety structure. Up to date the author had treated 140 cases. The reactions had been surprisingly few and mild. Three cases developed dermatitis. This cleared up three days after the withdrawal of the drug. Four patients complained of vertigo and headache. Again withdrawal of the drug cleared up the symptoms within 24 hours. "It is still too early" writes the author "to speak of the results as 'a cure' for we do not know whether there will be recurrence or not. Moreover all patients do not respond alike, so that standardisation of treatment is as yet impossible."

Bronchial Asthma and Nasal Allergy:—Ramirez (*Archives of Otolaryngology*, Aug. 1938, P. 199) regards bronchial asthma as a clinical entity and defines it as a bronchial neurocellular syndrome characterized by recurrent attacks of paroxysmal dyspnoea. He divides asthma into two large types: (1) broncho-edematous and (2) broncho-spastic. The broncho-edematous type, in which there is edema of the bronchial mucosa, includes asthma due to sensitization to an allergen. Truly non-allergic asthma due to remote stimulation by some other excitant, such as a pathologic condition of the dermis, and a local process, the macrophage reaction,

nose, the effects of heat and cold or emotion, manifests not broncho-edema but bronchospasm. Therefore in most cases in actual practice the condition is of a mixed type pathologically, even though etiologically it belongs fundamentally to one type. In diagnosis, statistics on heredity in allergy are undependable. There are many pitfalls in sensitization tests. For example, a physician with seasonal asthma had negative reactions to cutaneous, ophthalmic, passive transfer and inhalation tests in the nose. However, he reacted immediately to the inhalation of rag weed pollen directly into the lungs. The average patient requires care from both the allergic and the non-allergic angle. Satisfactory results will not be obtained merely by eliminating offending allergens or by attempts at hyposensitization. The pathologic condition must be corrected surgically. There is no doubt that many patients with sinusal involvement are allergic and should not be operated on. The bronchospastic type of asthma resulting from remote reflex stimuli originating in the nose or the accessory sinuses obviously will not be benefited except by elimination of the local pathologic condition. In cases of broncho-edematous asthma in which sensitization has taken place a gross nasal pathologic condition must be corrected surgically if lasting satisfactory relief of symptoms is to be expected; this, of course, must be in addition to proper treatment from an allergic standpoint. Grains of pollen embedded in the lining membrane of the antrum and possibly of the other sinuses may in this way be responsible for the continuance of symptoms in highly sensitive persons after the particular pollen has disappeared from the air of the locality. The author believes that there is a definite relation of endocrine dysfunction and vitamin deficiency not only to asthma but to allergy in general. He does not think that any one gland or a deficiency in any one vitamin is solely responsible. Any gland or combination of glands may be an important factor affecting the underlying fundamental mechanism of hypersensitivity. This phase of allergy indirectly may involve a strong hereditary influence and determine the shock tissue.

Recent Studies in experimental Lobar Pneumonia.—O. H. Robertson (*Jr. A. M. A.*, Oct. 15, 1938, P. 1432) summarises the results of his studies as follows:—

1. By implanting pneumococci suspended in a starch-broth paste into the terminal air sacs it has been possible to produce in the dog a lobar pneumonia which closely resembles that which occurs in the human being.
2. The pneumococci are dispersed from the focus of implantation principally by the edema fluid of the early lesion, which spreads peripherally through the continuous air passages and the pores of Cohn.
3. The evolution of the inflammatory lesion of the canine disease is essentially the same as that observed in human lobar pneumonia.
4. At the time of recovery a striking histologic change occurs in the pulmonary lesions of both man and the dog. This consists in the transformation of certain of the fixed tissue cells into free macrophages which engulf and destroy the pneumococci much more effectively than do the polymorphonuclear leukocytes. The macrophages are dependent on opsonins for their antipneumococcal activity.
5. The mechanism of recovery appears to be of dual nature, consisting of a generalized process, which acts to localize the infection and prevent or control bacteria whereby the lung is enabled to rid itself of the invading micro-organisms. If both processes are effective, recovery results. If either one fails, death ensues.

6. One attack of experimental pneumonia confers an increased resistance to subsequent infection which lasts for many months. The basis of such immunity seems to reside in the greatly accelerated macrophage reaction characterizing the recurrent lesions.

7. After recovery a high degree of local immunity can be demonstrated in the involved lobes; it persists only as long as the macrophages are present in the alveoli. However, the duration of the local immunity is greatly prolonged by repeated infection in the same locus. Under such circumstances a residual mobilization of macrophages is observed in the tissues of the lung.

The Biological Significance of the Tonsils and Adenoids and other external Lymphoid Tissues.—Percival W. Leath Hart (*B.M.A.*, Oct. 22, 1938, P. 835) states that each of these is so situated that one of its surface is in contact with food or air, the remainder being buried in the tissues. Like other organs they have an arterial and venous blood supply through which it receives the material necessary for its special metabolism and from which by osmosis and filtration its lymph supply is derived. It possesses an efferent vessel, but unlike lymph nodes, they have no afferent lymph vessel. This anatomical peculiarity is of importance. The "external mass" is the seat of the growth of micro-organisms which, in turn, produce their specific toxins. These toxins are removed by their passing into (1) the pharynx or intestine (2) through the efferent lymph vessels into the lymphatic system and (3) direct into the blood stream. Although any organism may be deposited upon an external mass, that external mass will only cultivate those to which the immunity of the individual is low or absent. In the case where immunity is complete, sufficient concentration of antibodies is present in the blood stream to prevent growth of organisms in the external mass. On the other hand, when immunity is low, growth takes place, toxin is absorbed, metabolic disturbance ensues, and the necessary antibodies are produced. It is clear, therefore, that external masses are extremely valuable organs and have a highly important biological functions to perform in the establishment of a healthy adult population by autoimmunisation of the growing child.

Discussing the clinical significance of enlarged tonsils and adenoids, the author writes that children are often referred for removal of enlarged tonsils and adenoids for one or more of the following reasons: (1) enlarged tonsils alone (2) enlargement with recurrent colds and mouth breathing (3) recurrent attack of tonsillitis (4) enlarged adenoids with chronic catarrh or suppurative otitis media.

He concludes: (1) That the function of an external lymphoid mass is to collect micro-organism from food or air and to grow those to which an immunity is needed. (2) That the condition "enlarged tonsils" alone is definitely an indication against its removal, since on the completion of the process of autoimmunisation the tonsils will shrink in size from an enlarged soft, succulent functioning organ to the fibrosed and atrophied organ of the adult. (3) That the adenoid facies is more commonly caused by catarrhal sinusitis than by an adenoid mass. (4) That catarrhal sinusitis can be treated successfully in a large number of cases by giving small doses of pot. iodide (1 to 3 grs. a day) for over a period of 3 months. (This the author calls a "nasal aperient"). (5) That tonsils and adenoids are removed too frequently without due consideration of their important biological function. (6) That many cases of rheumatic fever that are going downhill can be cured or greatly benefited by removal of the "carrier organ."

Oxygen Therapy.—Ronald V. Christie (*The Lancet*, Oct. 15, 1938, P. 876) writes that there are three princi-

ples in oxygen therapy which must be clearly understood. (1) The blood flowing through a healthy lung is more or less completely saturated with oxygen. In other words, the administration of oxygen to a healthy individual will not significantly increase the amount of oxygen taken up by the blood. (2) Cyanosis or lack of oxygen does not cause dyspnoea. (3) If oxygen is given at all it should be given cautiously.

It is generally true that the onset of anoxemia or cyanosis is the indication for oxygen administration. The majority of cases of acute anoxemia fall into between these two groups: at the one extreme are cases of outspoken lobar consolidation in which little relief of cyanosis is to be expected from oxygen therapy; at the other are the broncho-pneumonias, often with intense cyanosis in which the benefit from oxygen may be spectacular. Most cases fall between these two extremes. Generally it may be said that the more scattered the lesion throughout the lung, and the greater the number of added signs in the chest, the more effective will be oxygen therapy.

The Bacteriostatic Effects of Sulphanilamide-P, Soluseptasine, and M. & B. 693.—Mae Graith and Vollum (*B.M.A.*, Nov. 12, 1938, P. 985) examining the bacteriostatic effects of these drugs summarise their conclusions as follows:

All these drugs inhibit the growth of *Str. viridans* at a dilution 1 in 200 in the presence of defibrinated human blood, M. & B. 693 doing so at a dilution as high as 1 in 10,000. None of these drugs is effective in the absence of leucocytes.

None of these drugs exhibits any bacteriostatic effects on *Staph. aureus*.

The growth of *N. gonorrhoea* is retarded by all these drugs in the presence of leucocytes. In leucocytosed blood soluseptasine still exerts a strong bacteriostatic effect on the organism. All the drugs are effective against *N. meningitidis* in the presence of corpuscles in the case of M. & B. 693 at a dilution of 1 in 60,000. That drug is active at a dilution of 1 in 60,000 even in the absence of blood.

From the evidence set forth above it appears that M. & B. 693 may prove the most useful therapeutic agent in cerebrospinal fever and in conditions arising from infection with *Str. viridans*. Soluseptasine seems the most satisfactory for dealing with *N. Gonorrhoea*.

New Method of Treatment for Dermal Leishmaniasis. (Oriental Sore).—(By Flarer. *Proce Medical*, Sept. 17, 1938, p. 1388. Abstracted in the *J.L.A.M.A.*, No. 19, Nov. 5, 1938, p. 1803.) Dermal leishmaniasis being comparatively frequent in Sicily, and its treatment not being entirely satisfactory as yet, Flarer decided to try the antiprotazoal medicament atabrin, which had been found highly effective not only in the treatment of malaria but also in another protozoal disease, namely, lamblasis. The author describes his experience with this treatment in fourteen cases of dermal leishmaniasis. In the first four cases he combined general and local treatment. The general treatment consisted either in the oral or in the intravenous administration of the medicament. Although it improved the local lesions and reduced the number of protozoans, they did not completely disappear until local treatment was instituted. In the first case, the author says, it was given in the form of intradermal injections so as to soak the entire ulceration with atabrin dissolved in distilled water. The slight edema which followed persisted for about twenty-four hours, but without a trace of inflammatory reaction and without noticeable local pain. The ulceration regressed rapidly and the protozoans disappeared and

(Continued at foot of page 56)

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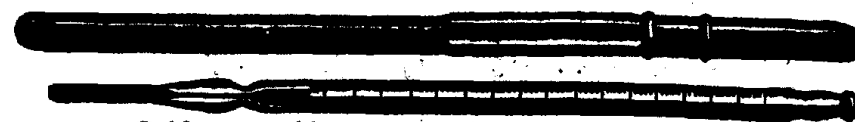
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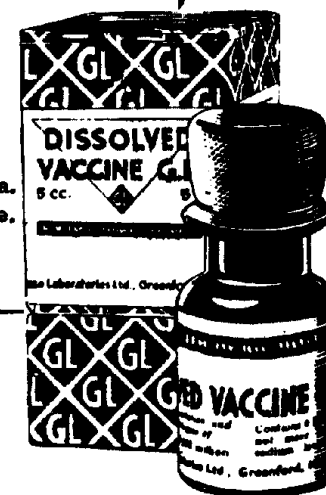
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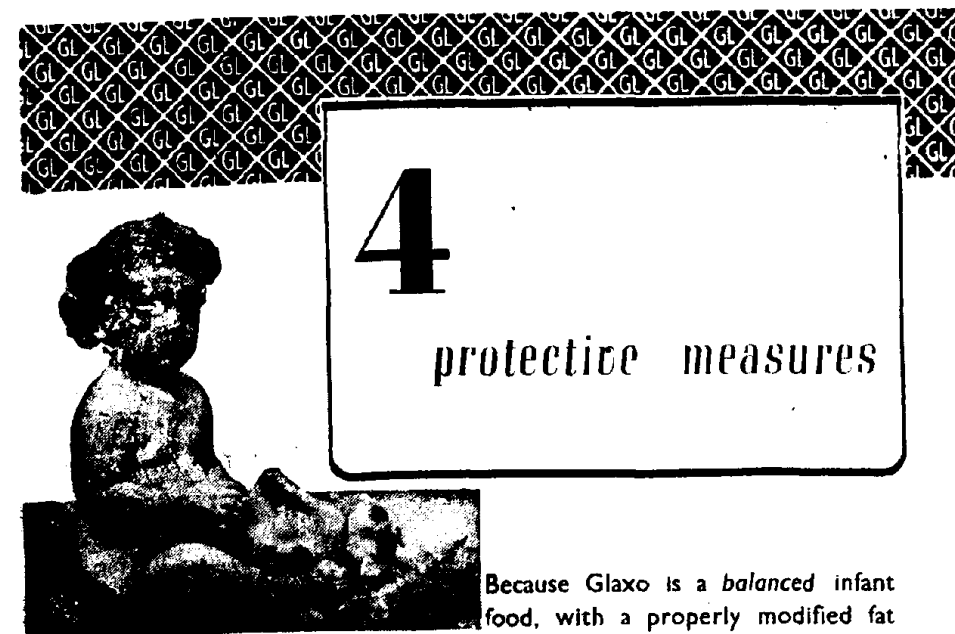
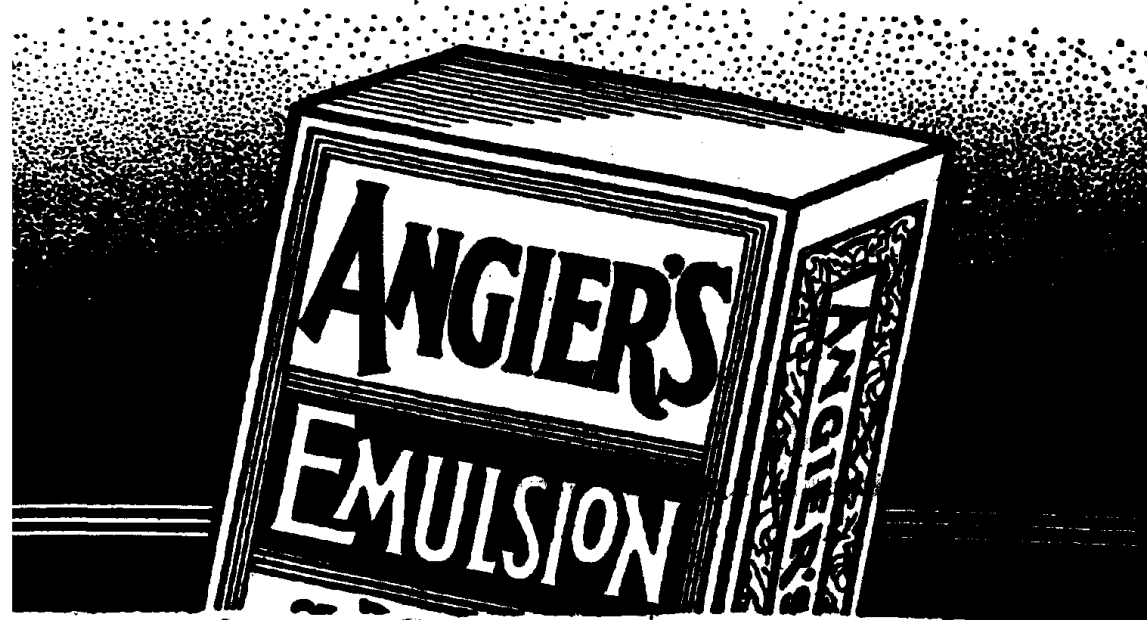
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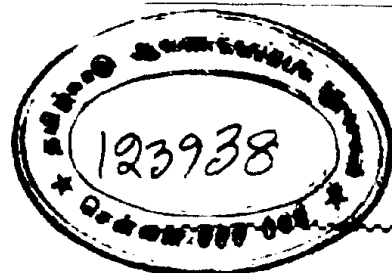
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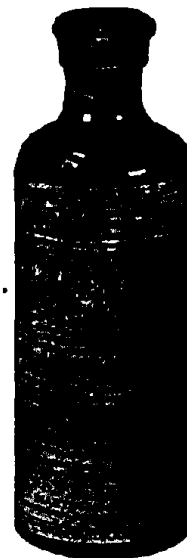
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