PEOPLE'S HEALTH

★

EDITOR
A.V. RAMAN

RE. ONE

VOL. IV NOVEMBER 1949 NO. 2

City Water Scarcity

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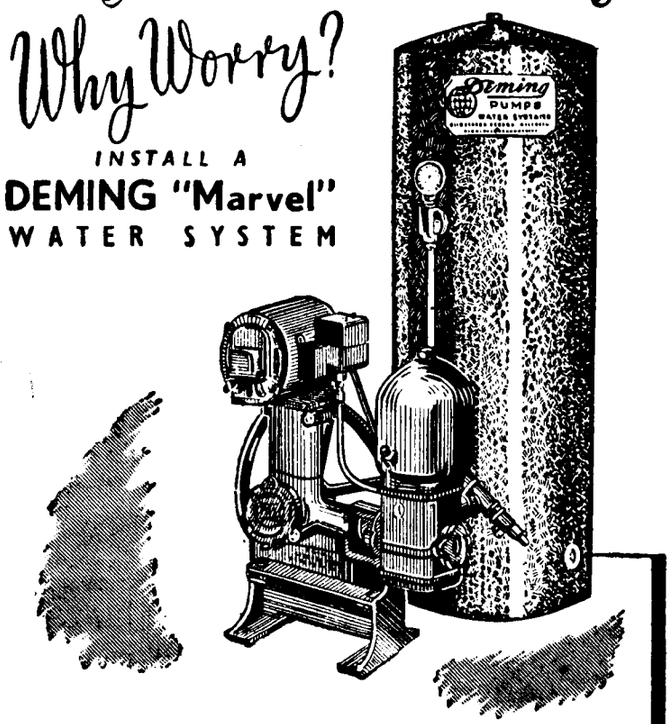
WATER SYSTEM



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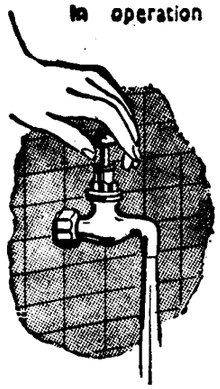

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ON

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—*The Hindu*

* * *

. . . This class journal has been rendering fearless service for the promotion of public health.

—*The Sunday Times*

* * *

. . . It is more a labour of love, what its crusading editor has undertaken in the cause of public health.

. . . We need not emphasise that this journal meets amply a long-felt want in the sphere of social work and civic consciousness and should therefore meet with liberal patronage and support from the public. . . .

—*The Sunday Observer*

* * *

. . . Service through *People's Health* is Sri Raman's religion. He counts no cost too great at its altar. With the uncommercial recklessness of the crusader's zeal, he combines wide practical experience and unique technical proficiency. These qualities are exemplified in every page of the journal he edits, which is a pioneer in its field calling for the support of the public spirited as in the nature of a duty.

—*The Swatantra*

FOREIGN

The sub-heading on the table of contents of this journal proclaims it to be "A Pioneer in the Field of Public Health". This it can rightly claim to be for that part of the world, for its articles cover the various fields of public health that are of importance to that area. . . .

Certainly, few of the journals concerned with public health matters in this country have editorials as straightforward as the one concerned with "The White Plague." . . .

The Sanitarian, Los Angelos, California (U.S.A.)

* * *

. . . The coverage of current subjects all relating so directly to the field of public health engineering and other phases of environmental sanitation makes this monthly publication a most valuable addition to the reference library of those engaged in these activities. . . .

I am sure you are rendering valuable aid in public health improvement of the population of India by this most worthy publication and I take this opportunity of congratulating you on the excellence of the material contained therein.

H. N. OLD,
U.S. Public Health Service, Washington.

* * *

. . . Unfortunately, we have no crusading periodical of this kind in the health field in America. . . .

HOMER N. CALVEN,
Editor of *Health Officers News Digest*,
New York (U.S.A.)

Annual subscription **Rs. 12 payable at Madras.**

PEOPLE'S HEALTH

A Pioneer in the Field of Public Health

Vol. IV NOVEMBER, 1949 No. 2

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PEOPLE'S HEALTH

VOL. IV No. 2 NOVEMBER, 1949 ISSUED MONTHLY

EDITORIAL . . .

A wise scepticism is the first attribute of a good critic.
J. R. LOWELL.

AMRIT KAUR AND "ADVERSE CRITICISM"

In her address at Bareilly Hospital, India's Health Minister, the Hon'ble Rajkumari Amrit Kaur expressed her strong disapproval of the *uninformed* propaganda, which is being conducted in certain parts of India against BCG vaccination. In her view "adverse propaganda is bound to militate against the success of mass vaccination". These utterances which have been reproduced in the *Madras Information* are probably intended as a foil to the anti-BCG campaign in Madras. Instead of slurring over the matter by calling such adverse comments *uninformed*, we would much rather have been informed where exactly the comments betrayed lack of information. To meet the criticism point by point and thereby silence opposition is a procedure worthy of a cabinet minister in a *democratic government*. But, dubbing comments, as *uninformed* and expressing resentment seems more like the obdurate sobbings of a nursery character. As for the Minister's observation on the effect of adverse criticism, we need only say that adverse propaganda will cease to be adverse, if it encourages the cause criticised!

WORDS OF GOLD!

The very next paragraph of the Hon'ble Minister's address admits the futility of the anti-tuberculosis scheme, if living standards are not raised. These are words of gold. But, mere oral admissions unsupported by action in the right direction, will be as futile as the BCG campaign, bereft of any improvement in the living conditions of our people.

THE ALPHA OF GANDHIAN CREED

In a recent broadcast, the Hon'ble Minister of Health spoke on the value of *ahimsa* as an antidote to the atom bomb. She said she has imbibed that great principle of non-violence from her master, Mahatmaji. " Non-violence ", Gandhiji said, " was the first article of his faith, and last article of his creed." If the Rajkumari has, really, understood the alphabet of the Gandhian creed, she would have come across the other and equally important faiths of her teacher. She has perhaps forgotten. Let us remind her.

ESSENCE OF BLACK MAGIC

Mahatmaji was of opinion that a life of a human being was not worth saving, if it could not be saved other than by destroying another life—whatever form it be. He said : " I abhor vivesection with my whole soul . . . I have spoken against western medicine, which I have called the concentrated essence of black magic. My view springs out of my non-violence, for my soul rebels against vivesection. . . The multiplicity of hospitals and medical men is no sign of true civilisation. . . ." Come, come, Rajkumari, don't these words form themselves again on your memory, well? India was made the scene of a mass vaccination campaign, almost immediately, after his death. Gandhiji was no visionary. He realised and these too must not be strange words to our Health Minister—that diseases can be eradicated by improving the living conditions of man, not by injecting products of western vivesection. Here is something in the nature of a challenge. Try improving the environment of *one* village and see if it is not healthier than a neighbouring village, in horrible surroundings but with a well vaccinated body of citizens. You will be convinced that criticism is *not uninformed.*

Had the poor Mahatma been given a Christian burial, he would have turned many times in his grave at our health policy. But, ashes, alas, are immobile !

* * *

WHO IS UNINFORMED ?

The way in which India's Health Minister programmes to combat the threatened epidemic of Polio (on which we had some trenchant comments to make earlier) will reveal that the expert advisers at our capital are no more informed than those who are *alleged* to make the so-called *uninformed* criticism. It was the *uninformed* criticism which exposed the ignorance at the highest levels, quoting chapter and verse ! But *their* ignorance is of a more dangerous nature ! The *uninformed* criticism will only retard the progress of a cause and invite retrospection ; and if a campaign is intrinsically good, it will survive all adverse criticisms. But *uninformed direction*, which amounts to callous misgovernment is scarcely a desirable feature in our Independent India.

* * *

BEWARE OF FIGURES !

While opening the Seventh Annual Tuberculosis Workers' Conference, the Hon'ble Rajkumari reiterated " once more that the BCG-vaccination programme is not introduced as the only method of controlling tuberculosis, nor is it a substitute for other established measures of tuberculosis control." Again, the same song in a different tune ! Had she stopped with this, we would have pitied her helplessness. But her figures have betrayed her. She says over one lakh of people have been vaccinated after examining thrice as many. This amounts to saying that one in every three persons is ' tuberculin negative ', that is, completely free from infection. This is too good to be true in the light of our experience in Madras Province. Nearly 90 per cent of the students examined here were found to be tuberculin *positive* and were naturally left unvaccinated ! Are we to take it that in other Provinces the percentage is much higher so as to make a national average of thirty-three-and-one-third percent free from the infection of tuberculosis, and therefore free to be vaccinated ? Rajkumari should not swallow the figures given to her by her experts, so-called, who will naturally be anxious to boost BCG. Let her guard herself against figures, not forgetting that " figures will not lie, but liars will figure."

PURIFICATION OF CITY WATER SUPPLY

Ever since we made a suggestion to improve the quality of Madras City water-supply by installing micro-strainers (vide *People's Health*, Vol. IV, No. 1, pp. 3–4) *in conjunction with the proposed porous bund around Jones Tower in the Red Hills reservoir*, friends had been inquiring as to what this innovation is. Micro-straining is not merely straining water as through a screen. In this case, it may be considered analogous to filtration through a closely woven wire cloths made of stainless steel. The manufacturers, Messrs. Glenfield and Kennedy, have issued a pamphlet on the subject. The micro-strainer has not as yet reached the market place, nor have the manufacturers popularised the idea among the people at large. The literature published by them is however made available to professional men, who are interested in water and sewage purification. We shall get an authoritative article on micro-straining from a high and competent authority for the benefit of the readers of *People's Health.*

(Continued on page 56)

ORGANISATION OF HEALTH SERVICE IN INDUSTRY

5. TRAINING OF THE INDUSTRIAL MEDICAL OFFICER

by

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(Note.—The views expressed in the article are personal and not that of the Government.)

INTRODUCTION :

Industrial Medicine has come to be realised as a great pillar of social medicine. Industrial medicine is clinical medicine as applied to man's environment away from his home. The contribution that medicine has made to industry is enormous. In the field of prevention of occupational diseases and the control of environment in industrial medicine has played an important part which has resulted in giving the worker healthful living while engaged on productive work for the country.

Attention to the subject of medical education in its application to industry is necessitated by the present day industrial management. This has been brought about largely by the adoption of the Factories Act, 1948, which introduces compulsory notification of certain occupational diseases. With the increasing tempo of industrialisation, new industrial materials and processes are constantly finding their way into industry in the country. If the industrial physician or the work's doctor is to assume his rightful responsibilities in industry, it is paramount that he should be given at least the fundamentals of industrial hygiene and a full knowledge of his responsibility in our present day industrial relations during his under-graduate or graduate course.

In any presentation of the subject of Industrial Health in relation to medical education one must view the term 'industrial health' in a very broad manner since it implies both intra and extra industrial interest in our working population. This subject of medical education has two phases : Industrial Hygiene, which is the science and art of preserving health through the recognition, evaluation and control of environmental causes and sources of illness in industry, and this is related to the working environment, the work and the worker ; and Industrial Health Education.

In our existing medical school and college curricula, preventive medicine and hygiene are largely applicable to community health problems, such as control of communicable diseases, including venereal and tuberculosis, school health service, maternity and child welfare, nutrition, vital statistics, public health education, housing, water supply, public cleansing and rural sanitation, drainage, sewerage and sewage disposal (urban and rural). There is very little or no education imparted in the study of environmental factors as well as the determination of harmful exposures

affecting the health of workers. Problems of industrial environment like atmospheric contamination from lead, silica, benzol, mercury, industrial solvents, ventilation, lighting, sanitation, temperature, humidity and fatigue, are not presented to students. There is no provision for the study of occupational diseases. Our medical students require some idea of the industrial application of medicine, and an enlarged view of the field of public health and preventive medicine which is now designated as "Social Medicine" and is concerned with the study of the social position of the individual patient in relation to his reactions to the environment in which he lives. In order to inculcate this viewpoint in the medical teaching in our schools and colleges, the study of occupational medicine and hygiene is very essential. These days more and more emphasis is being laid in the study of physical, geographical, socio-economic or occupational environment for the prevention of disease.

The Health Survey and Development Committee Report recognises the basic sciences underlying public health practice, including industrial hygiene and recommends provision of facilities for advanced training in such special subjects in two ways. Firstly, to provide the health worker with a reasonable measure of proficiency through a three-months' to one-year course. Secondly, to train health workers as specialists by attaching them for a period of 3 to 5 years to the Preventive and Social Medicine Department of a Medical College.

In their recommendation regarding the type of training necessary for the evolution of the 'Basic Doctor', the Committee lay down that "In every teaching institution a department of Preventive and Social Medicine should be organised . . . . with facilities for both teaching and field work". (Page 357, Vol. II).

The facilities for professional training of our medical students in the above subjects are non-existent. What facilities at all exist are provided in the post-graduate training at one institute only—the All India Institute of Hygiene and Public Health. There the course provided is of a short duration (3 months) and only a limited number of doctors (10) avail of the course, once a year.

In the lines that follow an attempt is made to outline a programme of training for three types of medical personnel. In putting forth these ideas one is guided by the view that the practice of industrial hygiene and for that matter, the training of our medical under-graduates and graduates will open up a vast field for the practice of preventive medicine on a heretofore unrealised scale since industrial hygiene concerns directly all industrial workers and their families. The benefit goes to over five and a half million of gainfully employed workers.

The three types of medical personnel envisaged in the programme of training are :—

(1) The medical under-graduate.

(2) The medical graduate who wants specialisation in Industrial Health.

(3) The physician engaged in industry who needs *on-the-job* training, but who cannot afford time to study at a teaching institution and could be provided training at the medical department of an industrial firm, which has a trained industrial hygienist as a medical director (*e.g.*, Tatas).

PLACE OF TRAINING

The training of the industrial medical officer must be carried out jointly by the universities and industry. The university training should concern itself with semi-formal lectures and informal clinical tutorials in the subject to ordinary medical under-graduates and conduct a course for post-graduate certificate or diploma in Industrial Health.

The medical department of business and industrial concerns should be concerned with practical experience

At the university, the training can be acquired at a medical school or social science faculty or other faculties and the candidate is given basic training in medical and social science subjects. A department of industrial health attached to an University with the dual function of research and training can bring about a close integration of the clinical, industrial and social aspects if one is established in each university. But what is most essential is to obtain a close co-operation of the medical or the labour department of the industry so that responsibility of training is equally shared by the two.

THE OBJECT OF TRAINING

An attempt must be made to avoid narrow specialisation. The student must be taught to study the workers in industry as a group. Hence breadth of vision is necessary. The object should include :—

(*a*) the preventive approach to the problems of industrial health,

(*b*) study of manifestations of physical and psychological stresses,

(*c*) the value of work,

(*d*) the place of occupational medicine in general health service,

(*e*) collaboration with agencies engaged in promoting industrial welfare—trade unions, etc.

A. TRAINING OF MEDICAL UNDER-GRADUATE

It is often argued that since only a very small number of medical graduates enter on careers in industry, there is no need to introduce special courses for them on occupational medicine or industrial health. This is not a correct attitude to adopt. The subject should be viewed from a different angle, that is, that since a small fraction only of medical graduates embark on a career in industry, there is no occasion for more than a general orientation for these under-graduates and this fact should be taken as sufficient to assure that the graduate in medicine will have enough knowledge to base an intelligent attitude towards problems of industrial health.

The study of occupational medicine should be officially accepted by the General Medical Council Education Board as a part of standard under-graduate medical curriculum in the form of a course. Other reasons which should guide the adoption of a policy for teaching of occupational medicine to under-graduates, are those which form the basis for the need of improvement in the service rendered by qualified medical practitioners such as

(*a*) the need to prepare the graduate to be able to grasp those problems of industrial medicine which might arise in the course of his general practice or work as a specialist even though not working as an industrial physician.

(*b*) to provide the under-graduate an opportunity to interest himself in this branch of medicine for a future field of selection as a speciality to practise or get interested in research work.

(*c*) to prepare the medical graduate to appreciate the value of occupational history statements as the fundamental component of the essential trinity—correct diagnosis, intelligent prognosis and effective treatment,—which forms the rational foundation for treatment of his patient or for adoption of preventive measures applied to his patients' particular environments.

With the above objects in view, the following course of procedure is recommended :

1. There should be added to the present day medical curricula a course in industrial hygiene.

2. This course should be introduced preferably in a senior year.

3. The trend of instruction should be a system of semi-formal or formal lectures supplemented in varying degree by field work.

4. The course should include instruction in—

(*a*) the place of occupational medicine in general health services.

(*b*) The preventive approach to the problems of industrial health.

(*c*) Industrial atmospheric contaminants and industrial hygiene methods of control.

(*d*) Industrial toxicology with reference to substances used in industry.

(*e*) Applied physiology.

(*f*) Law and industrial health.

(*g*) Industrial casualty service.

5. The course can be of two weeks' duration (six sessions of two hours each).

6. Field instruction may include visit to Industrial Medical Department or Industrial Hygiene Department of Public Health.

7. The course should be designated in the curriculum of medical studies in all universities.

8. The course should be prepared under unified direction.

9. Physicians trained in industrial hygiene methods should be approached to teach the subject.

B. TRAINING OF THE MEDICAL GRADUATE WHO REQUIRES SPECIALISATION IN INDUSTRIAL HEALTH

Contents of an Industrial Health Course

For such a course to be available to all medical graduates it should be divided into 3 types :

1. A whole-time one year course.

2. A whole-time six months' course for graduates with Public Health qualification.

3. A part-time three weeks' course (Refresher course).

Such a course should aim at giving the industry the opportunity to know what is the training of these men they are going to employ. The course is better conducted in two parts keeping in view the acquirements of the medical graduate who has obtained already a public health qualification.

Part I of the course should include study of

(*a*) General Social and Preventive Medicine,

(*b*) Public Health Service,

(*c*) Influence of housing, nutrition and occupation on health,

(*d*) Medical statistics and practical work.

Part II should be a course of systematic study and include such subjects as follows (350 hours).

1. Structure of Industry—Historical.
2. Law and Industrial Health.
3. Organisation of Health Service in Industry.
4. Applied physiology.
5. Applied psychology.
6. Occupational diseases.

PRACTICAL : This should include (200 hours)—

(*a*) *Laboratory work.*—The object is that the candidate should not work as a work's chemist or physicist but he should understand the working principles, *e.g.*, dust countering methods, measurement of thermal comfort, measurement of lighting requirements.

(*b*) *Visits*—This is most important. The object is to illustrate specific points in industry when visits are made to factories in small groups.

(*c*) Work for two fortnights in the medical department of a large industrial concern.

(*d*) *Clinical.*—Industrial disease case study in the surgical, dermatological and ophthalmological departments.

METHOD OF TEACHING

Of the recognised methods, following may be used ; lecture and discussion, seminar, symposium, syndicate (small groups with a leader), writing of dessertation on appropriate subjects, keeping a day-book, and promoting interest in research subjects.

PART-TIME COURSE

This should include the teaching of general principles and can be conducted on the same lines as under-graduate medical course supplemented by instructions in occupational diseases, care of young persons and women, medical records and their uses, medical inspection of factories, recent advances and newer problems in the field of industrial medical service combined with visits to important industries.

C. CONDUCTING A COURSE FOR PHYSICIANS ENGAGED IN INDUSTRY AT THE MEDICAL DEPARTMENT OF A FIRM

The following is a suggested outline of procedure :—

Subject	Conducted by
1. Introduction to Course	Industrial Physician.
2. General Talk—Structure of Industry	Staff member of firm.
3. Works Tour	Safety Officer.
4. Demonstration of ventilation, lighting, air conditioning methods	Works Engineer.
5. Chemicals, raw materials and by-products	,, Chemist.
6. Medical Inspection of workers	Industrial Physician.
7. Works Flow Sheet	Production Manager.
8. ,, Inspection for Safety-first meeting	Safety Engineer.
9. ,, Surgery and Nursing Problems	Industrial Physician.
10. Records and Statistics, Reports	,, ,,
11. Laboratory work	,, ,,
12. Rescue work	Staff member.
13. Personnel preventive equipment	Industrial Physician.
14. Welfare and Amenities	Labour Welfare Officer.
15. Administration of Workmen's Compensation Act and Factories Act	Staff member.

The above course is outlined to facilitate on-the-job training of industrial physicians.

A modern firm employing thousand or more employees should be able to provide opportunities for the successful conduction of the above course, and provide the student opportunities to learn the important features of health supervision as carried out by the Medical, Labour Welfare and Safety Departments in a firm. Such courses provide the student an appreciation of the opportunity of studying the health of large groups of workers in various types of industry.

In conclusion, it is necessary to mention that industry must volunteer such help as is essential in the efficient training of medical graduates, who are going to be employed in the factories, to look after the health of their own workers and for the benefit of industry itself. Secondly, Industrial Physicians should also volunteer to spare their time and knowledge for the training of these medical personnel.

In the handwriting of Abraham Lincoln on a scrap of paper found in the collection made public in July, 1947, the great emancipator expressed his views of the relationship of government to the people. "The legitimate object of government is to do for a community of people whatever they need to have done but cannot do at all or cannot do as well for themselves in their separate and individual capacities. In all that the people can do as well for themselves, the government ought not to interfere."

—(A.J.P.H.)

HEALTH AND ENVIRONMENT

by

Our Study Circle

This is the second of a series of articles. The subject covers a wide field. It is proposed to deal with *every aspect* of it in this series. Special care is taken to edit these articles in simple language. The aim is to create an interest in the subject among one and all—the common-man, the schoolmaster, the health worker, the social and welfare worker and all the rest, who labour to improve the living conditions of our people. The professional experts will also be profited, because these articles incorporate in them uptodate scientific knowledge, devoid of technical jargons.

We are deliberately giving the introductory remarks in small instalments. We appeal to our readers to go through them carefully.

We welcome suggestions from our readers to make these articles more useful and to serve the aim in view more effectively.

-Ed., P.H.

THE VERY FIRST PROBLEM

Every Congressman, nay every Indian, is expected to devote some time in the day towards improving the village sanitation. The Congressmen are under a pledge to do so. *The very first problem*, the village worker should solve, is sanitation, said Gandhiji. He stressed further the importance of the subject in these terms :

> " It is the most neglected of all the problems that baffle workers and that undermine the physical well-being and breed disease."

Indeed, the problems of our village sanitation have baffled even governments all the time. Why should it be so? The reasons are many. They should be well understood. Only a correct understanding of the reasons can lead to solving the problems. " The neglect of the laws of health and hygiene are responsible for the majority of diseases to which mankind is heir ", says Gandhiji. The subject continues to be a neglected one. It floats in the backwaters of our administrations, Central, Provincial and Local.

How to put our people in the way? It is by *first providing in abundance* the services which are essential and *thereafter* by educating our people as to how best to use the services so provided. Propaganda by itself cannot yield results. A ton of propaganda

urging people to use *safe water*, cannot yield an ounce of that precious commodity! A *show* of improving village sanitation is being made, for instance, under the Firka Development Scheme, in the Madras Province. Some sanitary conveniences are said to have been provided; some wells have been dug or repaired, some tanks have been improved or constructed and so on. But how far they have been done in keeping with the scientific principles involved in them, has to be seriously doubted. Gandhiji himself has issued a directive that these improvements should be done only with the assistance of expert knowledge. Our country is poor. Hence, every pie spent should yield the best return. We are afraid that we have failed in this and we have wasted money. We should avoid it. Competent expert's advice should be fully utilised.

EDUCATE THE EDUCATED

Our first difficult hurdle is to dispel the ignorance of the so-called educated. It is sadder still to see that those who run the administration in our name, are callous to the first needs of our people. And what do they do?

Sri Brijlal Nehru, himself a faddist like Mahatmaji, has pointed out this aspect of the question. He says: the attention of our Health Ministers is confined to the establishment of facilities for curing diseases; they believe that the construction of hospitals, sanatoria, clinics and dispensaries are our first requirements; they forget the time-worn saying '*Prevention is better than cure*'. They do not *put first things first*. They leave alone the root causes of ill-health in man; they still believe in treating the symptoms. Man gets disease from his environment. The disease is treated in a costly hospital. After cure the man is returned back to the same old environment. He falls ill again. And the hospital cures him again. A convenient arrangement for comfortable living for the doctor and nice profit for the druggists. Our Health Ministers, Central and Provincial, should be made to realise this fundamental defect in their policy.

They should also bear in mind what Mahatmaji himself has said about the subject:

> "Multiplicity of hospitals and medical men is no sign of true civilization."

Even the so-called cure does not reach the poor man for whom it is proclaimed to be provided. For one thing very few institutions are located in rural areas. The bulk of our masses live in villages. The urban institutions are being actually prostituted for the private benefit of the doctors. The poor man is ignored. He receives scant attention, sometimes even ill-treatment. Professional attention and comforts are given in these hospitals only to those who can pay for them. The institutions become, therefore, *private nursing homes*. The tax collected from the toiling poor villager is misused for the profit of the medical profession and for the benefit of those who have money and command influence.

CONFESSION OF WEAKNESS

They still seem to revel in spectacular hospitals and other curative facilities. Lord Wavell, as the Viceroy of India, opened the Hallett Hospital Cawnpore, on the 16th December, 1944. In the course of his speech, he stated:

> "Make no mistake though; hospitals, even the best and the largest, are to some extent a confession of weakness. *They mean that we have failed to control public health at its source.* You will have noticed that there is no complacency in the Governor's speech and that he and his Government recognise how much there is to be done in the field of public health. . ."

EDUCATION IN HEALTH AND HYGIENE

In the constructive programme, Mahatmaji has given an important place to the subject. Sri Brijlal Nehru suggested that, as a preliminary step, it is important that a book on health laws and correct living *in the conditions prevailing in India*, should be produced. To carry weight with the public, he suggested that the book must be brought under the authority of the Health Ministry of the Government of India. No steps in this direction seem to have been taken. At any rate, no such book has so far seen the light of day. Mahatmaji underlined the suggestion of Sri Brijlal Nehru and hoped that the authors (of the book) would be instructed to avoid the introduction of disease under the guise of preserving health, such as the craze for various inoculations.

THE CRAZE FOR INOCULATIONS

Public health medical experts may, however, take exception to this view. But it should not be forgotten that inoculations against cholera typhoid, dysentery, plague and the like have but a temporary value. In some cases, even their utility may be questioned as in the latest craze for BCG-vaccination against tuberculosis. The immunization through vaccination and inoculations may appear cheap. But it is not so in the long run. The provision of amenities like water-supply, drainage and housing may appear prohibitively expensive. If the economic side is examined, one would come to the conclusion that it is safer and wiser to attack the root causes of ill-health by spending the required money than by attempting to immunize people by ineffective and doubtful means. There is also another aspect of the question. The administration and the people are lulled to the belief that something tangible is being done to prevent epidemics like cholera through inoculations. Attention is, therefore, diverted from attacking the root causes of the disease. That is how the provision of drinking water-supply to the people has gone to the background. It is therefore necessary that all concerned should take special note of Gandhiji's warning. Our attention should be concentrated on the improvement of our environment.

Mahatmaji said, in this context: "Indeed the teaching of the laws of health should be obligatory in all schools and colleges." The teachers have to be taught first. It is only when they get educated, they will be in a position to impart instructions to the pupils. "Health Education is the sum of the processes by which what is known about Health is translated into effective personal and community living", says Fred V. Hein (U.S.A.). It should be further remembered that the health education is *closely associated with the home environment of the children*. Unless their dwellings satisfy the minimal requirements of health and sanitation, they cannot be expected to practise what they are taught in schools. It is the endeavour of the authors of this series to produce a text-book on the lines suggested by Sri Brijlal Nehru. It is also their endeavour in this series to produce the text-book in such a way as to be useful for educating our boys and girls in our schools and colleges.

Editorial . . .
(*Continued from page 47*)

THE LATEST ON BCG

As we were just issuing "strike orders" for the November 1949 issue of the magazine, our American Mail reached us. It contained very important and latest information on BCG. We hasten to incorporate the information thus made available to us, in this issue.

STRICT SCIENTIFIC PROOF UNAVAILABLE

Dr. Carroll E. Palmer, Medl. Director, Field Studies Branch, Division of Tuberculosis, U. S. Public Health Service, states, *inter alia*, as under :

> "First, it must be admitted in clear and unequivocal terms that strict scientific proof of the effectiveness of BCG vaccination in the control of human tuberculosis is not available. This is true despite the fact that millions of persons have been given BCG during the past 20 years and despite the very suggestive evidence of a few, small scale studies. It may still be true 20 years from now, unless an energetic and careful evaluation of the effects of BCG programs are undertaken."
>
> (*Public Health Abstracts*—Oct. 7, '49)

This opinion cannot be brushed aside as 'uninformed criticism' nor the expert advisers of the Ministries of Health, Provincial and Central, continue to assert that BCG vaccination has transcended the stages of experimentation.

POSITION INDEFINITE

Dr. E. P. K. Fenger presented a statement to the American Trudeau Society on the subject. It was adopted (with certain revisions) by the Council of the Society on May 1, 1949. Its major recommendations would be of special interest to the public of this country, in particular :

> "*The degree of protection recorded following vaccination is by no means complete, nor is the duration of induced relative immunity permanent or predictable. The need for further basic research on the problem of artificial immunization against tuberculosis is recognised and is to be emphasised.*
>
> * * * *
>
> *The Society believes that since BCG vaccination affords only incomplete rather than absolute protection, the most effective methods of controlling tuberculosis in the general population are :*
>
> (a) *Further improvement of living conditions and the general health ;*
>
> (b) *Reduction of tuberculous infection, which can be accomplished by modern public health methods and the unremitting search among presumably healthy individuals for patients with infectious tuberculosis ;*
>
> (c) *Prompt and adequate medical and surgical treatment of patients with active disease ;*
>
> (d) *Segregation and custodial care of those not amenable to accepted forms of therapy ;*
>
> (e) *Adequate rehabilitation.*
>
> (*American Journal of Public Health*, Oct. '49).

In the light of the foregoing latest and authoritative views, we would appeal most earnestly to our Ministries of Health, Central and Provincial, to abandon their ill-advised programme of attempting to immunise our nation against tuberculosis through BCG mass vaccination. We would also appeal to them to see reason and to take steps to fight this scourge on well-recognised fronts, such as the improvement of the living conditions of our people.

THE GENERAL PRACTITIONER

by

C. Ramasubban

The hollowness of the profession of the medicine man that he is out to render humanitarian service to the suffering people, is getting more and more exposed ! The profession is fast developing into a money-minting-machine. The human side of it is fast fading out of the picture ! That the *specialists* know more and more about less and less of the human body, is a standing joke.

Mr. C. Ramasubban, who is well known for presenting facts in a telling way, has pricked the bubble, as it were, in his talk from the Madras Centre of A. I. R. on 20th October, 49.

With pleasure, we reproduce his talk through the courtesy of A. I. R., Madras.

—*Ed., P.H.*

I propose to commence this talk with a brief narration of my personal experience just to indicate that my discourse is not going to be merely dialectic. My first contact with a doctor was even before I developed the faculty of co-ordination ; my eyes had been afflicted and my sight despaired of. The doctor was a general practitioner of repute, a man with a magnificent personality, tall, portly of stature, with a flowing white beard, kindly eyes and sweet soft speech ; he had an extensive practice especially among people of the lower middle class for whom his love was unbounded. A few drops of ichthyol glycerine thrice a day, frequent eye-wash with boric lotion, warm fomentation and a bandage against glare put my eyes right in six months, but—and this is the most interesting part of the treatment—the daily routine included my being

taken to a temple every evening, where I was made to stand before the deity and lisp my appeal for restoration of my eyesight. My father, who was, in relation to his time, a pronounced agnostic, asked the doctor what the last item of the programme was for, and was told very sweetly that even if he did not believe in Divine Grace he could at least believe in autosuggestion and the re-vitalisation of the nerve centres thereby. Time passed, and in later years, my acquaintance with the venerable old doctor increased. Unaccompanied by my parents, I went up to him often with my little physical troubles, and he treated me for stomach-ache, heat boils, wax in the ear, a painful whitlow and a broken toe-nail, all with the same careful attention and sympathy, as he did in the case of other youngsters with far more gruesome ailments. And, when eventually he died (I was eleven years old then) I wept for a whole day with more poignant grief than I had felt when my father died two years before.

THE GENERAL PRACTITIONER

Such was the esteem that I developed in the tender years of my life for the benevolent solicitude of that inexpensive General Practitioner that, in the later years of my sophisticated existence, at every place that I went to, I first looked out for a kindly doctor who could make himself readily available to me if I was down and out, which I invariably was even with a tooth-ache or ear-ache. I assume that my experience is about the same as that of any average man, who is buoyant and happy with himself and with everybody when he is biologically perfect, but with the first onset of even such a common and oft-recurring mal-adjustment as constipation, he becomes unsociable and even vicious. Human nature being what it is, no average man wishes to provide for a contingency beyond the average, even as regards attention by a doctor. When he goes to a new place, he does not ask for a heart-specialist or lung-specialist, an aurist (or should I say otologist), an orthopaedist or an osteopath. He does not even bother about a radiologist, for he does not expect to swallow his tooth-brush very suddenly one morning, with the necessity for an immediate X-ray examination, and perhaps an almost immediate abdominal operation for its extraction. If he is a middle-aged man, he might have been told that his heart was slightly noisy, or that his gastric membrane was perhaps ulcerated, or even that his appendix was likely to be mischievous; nevertheless, he is inclined to believe in the law of averages and give himself always the chance to survive these rather disturbing probabilities till the satisfying age of three score and ten. So he looks round for the comforting presence, when needed, of a General Practitioner who would rush to his bedside when the region of his heart is painful, assure him that the specialist who had warned him was an alarmist, and that his trouble was just a little gas pressing against his diaphragm, who would cure his gastritis with a few doses of pepsin mixture, and would assure him that the pain in the appendix region was no more than a reflex of acute colitis. For, after all, what man is there who does not wish for relief from fear even earlier than relief from pain? How often have we heard a man saying "God bless you, doctor, I can bear this pain for quite sometime as long as you assure me that it is not going to kill me." And when the doctor says "Kill you? Nonsense. This pain will vanish tomorrow, and you will live to be eighty." What man is there who would not take hold of the doctor's hand and press it to his heart?

THE "SPECIALIST"

Medical popularity and the layman's respect for the medical profession is largely a manifestation of infinite trust in the doctor which is a wholesome alternative to the unbearable mistrust and misery to which he is driven, say, when his child is ill or his wife is dying. Even if

he is not fond of them he is human enough to forget personal animosity before the sight of a human being in pain or peril, and what he most needs is comfort, assurance and an optimistic assertion as palliative to the wild and imperative feeling that something must be done and that the doctor is prepared to do it. Invariably this respect for the doctor is in most cases in relation to the General Practitioner and not to the specialist, the sweat, toil and humanising work of the former coupled with his bedside manners and genuine sympathy, standing in strange relief against the cold and impersonal attitude and monosyllabic conversation of the specialist. The experience of most of us with specialists must be more or less common; we find them expensive, intolerant and therefore unattractive; they talk to us in incomprehensible jargon almost as if they wish to disguise the vagueness of their opinions. The specialist would use the term Hyper-Pyrexia as aginst the General Practitioner calling it high fever. If your liver is slightly upset and you run a temperature the specialist would put it down as *Hyper-Pyrexia* of *hepatic* origin; you get scared and have to fall back on your doctor who assuages your anxiety with "Oh! that is nothing; he merely says your liver is upset and that you have fever". When your abdomen is painful and you want to know the cause, your particular General Practitioner will be more often correct and the specialist less often so, because your man knows your idiosyncrasies and, with his experience of your own peculiar conditions, discovers that the pain is a recurrence or may be the direct result of a former trouble, while the specialist depends on the immediate data available and the clinical symptoms on which he makes his prognosis. You may have *renal colic* with secondary inflammation of the adjacent organs and unless your General Practitioner who is aware of your predilection for faulty metabolism in the kidneys warns the specialist in advance, your condition may be diagnosed as anything from *Colitis* to *Appendicits*. All told the G.P. has the advantage over the specialist in not losing sight of the patient in the diagnosis or treatment of his disease. He would always refer to the whole instead of looking at the part. His conception of the patient is as a human unit with which he is fairly well-acquainted, and his approach is therefore both psychological and physiological. With the specialist, on the other hand, the patient is only a patient, not a human being with whom he has intimate acquaintance. I am aware that there may be cases where the specialist has several years' acquaintance with his patient and is consequently as well qualified to treat him as the intimate G.P., nevertheless by practice and persuasion his usual approach is so different from that of the other that he fails to obtain from the patient the response or the reaction which the General Practitioner succeeds in getting.

WHY JARGONS?

And talking of specialists, what names they give themselves to indicate their precise clan! You might ask what is in a name! Why, everything. It is the name that decides the kind of reaction that is produced in the mind of a suffering human being. The very suggestion that a man suffering from stomach ache had better consult a surgeon rather than a physician is enough to give him the creeps as he starts, almost immediately, getting horrid visions of knives and scissors, chloroform and bandages. So much depends on the difference between a doctor, indicating a General Practitioner who might combine in himself the functions of a physician and an average surgeon, and a surgeon, pure and simple, whose sole preoccupation is cutting and stitching that often a physician gets a smile while the surgeon gets a frown. How much more would names like *Osteopath*, *Orthopaedist*, *Orthoepist*, *Orthodentist*, and so on and so forth disturb a sick man's equilibrium? To be asked to go to a dentist

is one thing, but to be asked to go to an *orthodentist* with the suggestion of cutting and straightening which is implied in the name is quite another thing. The ear specialist calls himself an *aurist* or *autologist*. The eye doctor calls himself an *Oculist*. The children's doctor calls himself a *Pediatrist*. One who doctors women calls himself a *Gynaecologist* and *Obstetrician*. The liver specialist calls himself a *Hepatologist*, and a skin specialist a *Dermatologist*. He refers to itches as scabies and to a virulent form of prickly heat as *Psoriasis*. And, would you believe it, there are specialists who call themselves *Chiropodists*? They just remove corns, bunions and warts. There are specialists who deal with mental diseases and call themselves *Psychiatrists*. In Western countries, they adopt methods which they alone can justify and claim to themselves results which are fantastic in the extreme. Then, of course, there are specialists who deal with venereal diseases calling themselves *Venereologists*. To be seen anywhere in the vicinity of a *venereologist* even without being sick, or to visit him socially or engage in a quiet conversation with him in the club parlour or at a street corner when all that you may do is to talk to him about the weather or about the increased price of razor blades, is to court social disaster. Finally, I must not forget to mention the existence of clinical specialists. They are the hand-maidens of most of the above diverse specialists, but unlike any of them and the General Practitioner, they never contact sick humans except through what is taken out of them for examination. They believe in the Biblical saying that it is what cometh out of a man that maketh him bad. They are more interested in the existence of the tiny living organisms inside the human being than in the being itself, and attempt to theorise from counts, reactions, colours, viscosity, specific gravity, quantity and periodicity of substances, not from the living mass of protoplasm who generates them.

DIFFICULT TO GET ON WITH

And this takes me on to the subject of medical men as good or bad or indifferent company. In my own not very limited experience, I have found that, barring the *Pediatrist* and the *Radiologist* both of whom are generally cheerful and companionable, the others are, as a class, very difficult to get on with. It is probably their continued and constant association with deceased organs in various strategic points of the human frame that makes them react to company in the specific manner in which those organs themselves generate human reactions. It is often said, perhaps in joke, that an Oculist rarely sees beyond his nose in regard to common matters, that the E & T specialist is often a cut-throat, and an *Osteopath* worse than a butcher. I do not subscribe to these rather exaggerated pictures myself, but I must mention that the first time I saw the surgical instruments of an Osteopath, my feeling was that he had degraded the delicate operations of surgery to the muscular and mechanical jobs of plumbing and carpentry. The tiny, albeit lethal, instruments of a plastic surgeon and the cold and cruel weapons of an abdominal surgeon, which sent a shiver down my spine, did not make me so disgusted and horror-struck as the vile gadgets of an *Osteopath*. The *Hepatologist*, you will find, takes a perennially jaundiced view of the human mechanism like his brother, the *Dermatologist*, who washes his hands and wipes his face a dozen times a day to keep himself free from other people's dirt. As for the *Psychiatrist*, you will find him questioning even his Bank Manager in a queer way when he applies to him for an overdraft. I shall not, of course, omit to mention three other specialists, I mean the *Hydropath*, the *Naturopath* and the *Dietetist*. These men perennially believe in the so-called scientific method of error and judgment. They have the privilege of everlasting experimentation on their subjects. They are never supposed to go wrong because they always preface their recommendations with the proviso that different people react differently to nature, water and specific articles of food. My own view of the *Dietetist* is that he is Satan's Chief Agent in his area for killing all the innocent joys of good living and good eating.

THE IDEAL PRESCRIPTION !

As long as human happiness is sensuous, and sensuous happiness depends on biological happiness, and any man is biologically happy, so long as he eats well, digests well, sleeps well and moves about with ease, the true doctor is the man who is capable of keeping his patients performing reasonably well in all the above ways, who first finds out the cause of his patient's disease, and having found it tries to cure it first by food and, when that fails, by medicine. The combination of food and medicine is my ideal of a good prescription. Likewise, the combination of a good dietetician, a good physician and a simple and unobtrusive surgeon and above all a sympathetic, kindly, well-meaning, responsible and hard-working General Practitioner, is my ideal of a doctor. From his own point of view his satisfaction would depend on what he seeks in life. If he is after just a few patients, a small amount of time spent on his work and large volumes of money paid into his Bank account by a few people, then he would turn into a specialist. If, on the other hand, he is after more and more human contacts, after the relief of suffering, depression and morbidity in a wide circle of patients, if he does not shirk long hours and frequent intrusions and inroads into his time, and does not get irritated by silly questions to which he can deliver simple answers, if he really believes in the full implications of the oath of *Hyppocrates*, then he would plump for the life of a General Practitioner. And if ever a medical man is chosen as the titular head of a democratic country by adult suffrage, he is more likely to be a humble *General Practitioner* than a distinguished *Specialist*.

OVER-SPECIALISATION

It is a right that a doctor should have special interest and knowledge about one subject. It is wrong for him to show special indifference and ignorance about all other subjects. A good doctor should be a jack-of-all-trades and master of one.

* * * *

Perhaps the worst feature of specialisation is that it makes doctors feel they are doing wrong to deal with even the simplest case if it lies within the protected area of somebody else's speciality. Particularly is this the case with psychiatry, which is regarded by other doctors with a mixture of suspicion, reverence, and ridicule. In Noel Coward's "Blithe Spirit" a character, referring to psychotherapy, says: "I refuse to go through months of expensive humiliation in order to find that at the age of ten I was desperately in love with my rocking-horse." A surgeon or a Physician faced with a patient exhibiting some "functional" symptoms is lkely to take a similar attitude, feeling that origin of the simplest psychoneurotic symptoms lies buried in an uncharted swamp in which only the expert can poke with impunity—a swamp crawling with complexes and represssions, where nothing is what it seems and everything symbolises something indecent. This is a foolish attitude to take; a sensible physician or surgeon should be able to give wise counsel in the simpler case of neurosis.

Further, there is a complication of spcialisation—that it allows bees to remain undisturbed within their masters' bonnets so that the allergist looks at the world through allergic-coloured glasses and beams myopically at a world where everything is allergic.

(*Richard Asher*," *The Lancet*")

BODY AND MIND
A NEW CONCEPTION OF DISEASE

by

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That the mind has a profound influence on the body can never be denied; that the body is but a mirror of the mind has now come to be increasingly accepted. Therefore it is only natural that mental strains should have their repercussions on the bodily functions. But the full implications of this truth have not been wholly realised by even the medical profession. The state of mind has an all-important bearing on the causation of disease—at least of most of them.

Disease is of course as old as man and he had ascribed various reasons for its causation. God —and to a greater extent the Devil—has been blamed for all the ills human flesh is heir to. "Humoral" and "Bacterial" theories were afterwards advanced to explain sickness. Havelock Ellis would see 'sex' at the bottom of every disorder; and Freud tried to prove everything by *Psychoanalysis*. Despite all these explanations, it was always felt that some link in the causation of disease was missing.

A NEW APPROACH

Therefore it is not surprising that a new approach to disease is discernible in the Modern Medical World. They call it "Psychosomatic Medicine" (psycho—mind and soma—body). One of the most important advances of the last ten years has been the growing appreciation of the somatic repercussions of emotional disturbances. Psychosomatic instability is now a well recognised entity and shows how close the link is between the functioning of the emotions and the body organs. Today, doctors have awakened to the fact that a third of all the patients they see have more symptoms and feel far worse than whatever organic disease their X-rays, laboratory tests and operations are ever able to justify.

"Quite one-tenth of all illnesses are frankly psychosomatic and the majority of the remainder have an important psychological element. The action of human beings are mainly swayed by emotions, and when the emotions become disordered, so do their actions. Life is a continued struggle against adversity of one kind or another and there are few who can face it altogether, and undismayed" says an English Medical Authority.

FIRST CASUALTY

Quite an impressive array of illnesses has already been listed by Psychosomatic Experts as caused by prolonged emotional disturbances.

One of the commonest causes of peptic ulcer is now recognised to be prolonged anxiety, and the type of person—usually a male—who develops this disorder is practically always the very conscientious, over-anxious, worrying individual with high ideals and a strong sense of duty and social responsibility. It is common knowledge to everybody that one's appetite and digestion are always affected under emotional stress and hence it is quite understandable why the stomach should be the first casualty in a "war of nerves" in man.

WHEREIN LIES THE FAULT?

That reppressed or distorted emotions can cause or aggravate not only stomach ulcer, but also high blood pressure, asthma, eczema, heart-trouble, and probably many other diseases, is now admitted by many eminent doctors. In other words, what is really wrong with these people (suffering from the aforesaid diseases) is not their bodies at all, but their approach to life. Something is eating away their minds, some conflict or desire that they cannot admit and cannot cope with. As their minds and emotions are unequal to solving whatever the problem is, they pass it over to their body. Usually these people are not to blame for the conflict in them. They are the result of the wrong environment or the wrong upbringing, but they feel they are to blame for them. They feel they must fight them and they do and become ill in doing it!

Once you have found the emotional clue, the treatment should be easy. But one of the troubles with the psychosomatic approach to illness is that any psychological treatment is apt to take longer. In many cases this is inevitable. The psychoanalyst and a good many others are trying to find short cuts in this long process of treatment. But the real hope in psychosomatic medicine lies behind that doctors learning to recognise the emotional cause of functional ailments before the patients have been suffering from them for years and years. Then they can help their patients to face problems and overcome symptoms while both are still new.

WORRY: THE DISEASE OF THE AGE

Recently 500 doctors from 32 countries met in France to discuss the effects of fear and worry on the human body. The result of the conference was a report which states that worry and fear do produce disease. Burnet Hershey, a noted American author, has made the following interesting observation in a recent issue of *The Nation*: "Peptic ulcers had a strange effect upon the history of our times. In Washington I had to contend with the ulcers of Bedell Smith, Bob Lovette and Dean Acheson. George Marshall himself fell victim to the pressure which falls on a world leader these days. Former United States Secretaries, Stettineus, Hull, Buyrnes wrecked their health by worry and anxiety". Italy's Premier and Britain's Chancellor are both martyrs to stomach troubles. Burnet ascribes Stalin's weak heart to the same cause. Who knows that Bevin's high blood pressure, Attlee's asthma and eczema and Patel's heart trouble are not due to heavy mental strain which is concomitant with their positions of responsibility.

There is no doubt that this emotional basis of illness can explain quite a lot of common ailments of man. It will also explain dramatic cures effected by quacks. Perhaps the Emotional Theory may not offer a cent per cent explanation, and, as a famed Harward Psychiatrist emphasises: may be it is not so much the emotional experience as it is the *RESULT* in the body which gives fear, disgust or any other emotion its importance in bringing about illness.

WHAT WE KNOW ABOUT CANCER

by

Waldemar Kaempffert

An appraisal of medicine's most challenging mystery reveals increased but incomplete knowledge, and a wide area of hope.

This article appeared in the magazine section of June 26, 1949, issue of *The New York Times*, one of the leading newspapers in the United States. The writer is science editor of *The Times*, and has written on scientific and medical subjects for more than forty years.

—Released through the United States Information Service, Madras.

Cancer is as old as life. Plants, animals and men have died of it for thousands of years. Yet experimental research in cancer, research that deserves to be called scientific, began only 50 years ago.

The knowledge acquired in those 50 years is enormous, gratifying and perplexing. It is gratifying because tumors can now be removed with safey from parts of the body that no surgeon would touch only 20 years ago and because we are now entering the chemotherapeutical or medical stage of treatment, so that injections or pills will accomplish as much as X-rays and radium, and sometimes more. And it is perplexing because so many contradictions, so many observations, manifestly related, await the magic touch that will make them click into significant patterns, like the colored bits of glass in a kaleidoscope.

The perplexities are naturally the direct concern of science. Here are a few:

In a mixed population of an island in the Netherlands East Indies, Malays and Chinese eat the same food, but the Chinese are subject to cancer of the stomach, whereas the Malays are virtually free from it. Why?

Does cancer run in families? The authorities say that only a susceptibility is inherited. A Madame "Z" comes down in medical literature because out of 26 members of her family 16 died of cancer. Out of 174 members of the "G" family 41 succumbed to cancer. There are striking cases of identical twins who developed tumors in the same period of life and occasionally in the same site. Some types of cancer appear generation after generation in families.

Malignant tumors have been known to shrivel and disappear spontaneously in a few cases. Why? Nobody knows.

Why should excessive doses of X-rays, radium and other agents incite cancers, but proper doses destroy them?

Cancers of the skin, mouth, esophagus and stomach are more frequent in the poorly paid than in the well-paid and well-to-do classes. A matter of nutrition, perhaps?

A diet lower in calories than is considered necessary for the maintenance of good health reduces the incidence of cancer in both animals and men. But why should restriction of calories have little if any effect when a malignant tumor is well started?

Why is cancer more prevalent in the temperate climate?

There is no pre-pneumonia stage, no pre-diphtheric stage, no indication in the body that a particular infectious disease is about to gain a hold. But there is a pre-cancerous stage. Why?

There are several hundreds of these puzzles. Fifty years of research have not solved them, so that there is no cure for cancer—yet. Meanwhile, the scourge exacts an ever-increasing toll of life. In 1930 it killed 117,800 in the United States; this year it will kill well over 190,000; in 1980, unless some spectacularly successful treatment is discovered, statisticians estimate that of the 58,731,000 Americans who will be over 45, it will kill 288,500.

These statistics are not as gloomy as they look. Though cancer spares neither children nor octogenarians, its victims are chiefly those who have reached and passed middle age. Because of the advance in medical science, we live longer than did our grandparents. The dreadful increase in cancer mortality is, therefore, what statisticians expect.

Yet, if you ask experimenters and investigators where the treatment of cancer stands after 50 years of research, the answer is bright with hope. Even in the backward present, 65,000 of the 190,000 who are doomed to die of cancer in 1949 can be saved, if they have the benefit of the best surgical and medical skill in time.

What is cancer? A disorderly, usually rapid, abnormal growth of tissue that destroys life if allowed to run its course.

Because there is as yet no cure for cancer in the medical sense, malignant tumors must be cut out, or destroyed—in a way not yet understood—by X-rays or by the rays given off by radium. So blunt a summary does scant justice to advances in surgery or radiology. No one would have dared to remove a cancerous lung 20 years ago. Now it is done. Sufferers from cancer have had three-fifths of the stomach, part of the colon and the whole spleen cut out and lived for years. As for the X-ray machines of today, they are marvels of power and ingenuity—precise in the dosages delivered. Besides, we have the radioactive isotopes which are now so plentiful that whatever place they may have in the treatment of cancer should soon be established.

Both surgery and powerful rays are of no avail if a malignant growth is detected too late or if malignant cells have been carried to distant vital organs, there to start secondary cancers. Hence for decades efforts have been made to find a chemical test for incipient cancer—not just early cancer, but the deep hidden cancer that is just starting and that escapes the best diagnostic skill. In other words, a chemical test as good as a Wassermann in syphilis is wanted. There are urine tests, ultra-violet-ray tests, tests with such dyes as methylene blue and cresyl blue, electrical tests and a score or so of blood tests. Some of these are about 80 per cent accurate, but they are complicated and they can be made only by trained technicians. Also they indicate too much. Nearly all are positive for diseases other than cancer and usually for pregnancy, which is not astonishing when it is remembered that an embryo and a tumor are both new growths.

In March 1949, Dr. Charles B. Huggins, of the University of Chicago, one of the most distinguished of American scientists, who have devoted their professional lives to the study of malignant growths, published a paper in which he described what may be the long-hoped-for, reasonably simple serum test, serum being the clear liquid that separates from clotting blood. It has been known for 20 years that normal serum

and the serum of a sufferer from cancer differ in their albumin. Albumin, most familiar as white of egg, coagulates when heated. Huggins pulled together all that was known about the relation of albumin to cancer, added information that he and his colleagues had gathered at considerable expense and came forth with a synthesis which is a brilliant contribution of its kind to the early detection of cancer.

The serum albumin of a healthy person coagulates more readily than that of a sufferer from cancer. Positive results do not appear in pregnancy, but they do appear in tuberculosis and massive infections. Such false positives can be ruled out one by one, leaving only the dread, inescapable diagnosis of cancer. There is as yet no specific chemical test for cancer. All the tests so far devised are only indicators of abnormality.

All this being so, the impatient practical man reasons that every disease has its cause and that when this has been found a scientific treatment usually follows. Why not concentrate on the cause of cancer?

The question is meaningless because there is no one cause of cancer, as there is of smallpox, infantile paralysis, typhoid, typhus or any infectious disease. Moreover, cancers differ. The ultraviolet rays of the sun, X-rays, irritations, hormones, arsenic, nickel carbonyl, chromium, cobalt, mesothorium, extracts of diseased tissues, asbestos, a few viruses, mineral oil, pitch, tar, soot, creosote, parasitic worms, smoking, heat—all these can incite cancers. So can any one of about 300 chemicals derived from coaltar and oil, many of them synthetics with no counterpart in nature. How, then, can we talk of "the cause of cancer"?

Scientists are trying to find out what happens when a normal cell changes into a cancer cell and why the changed cell remains malignant. There are many ways in which the problem is approached in the laboratory, but these four have the strongest experimental evidence in their favor: (1) Cancer is a virus disease; (2) excessive stimulation by sex hormones starts cancers in the male prostate gland and the female breast; (3) some chemicals can temporarily arrest cancers; (4) normal and cancer cells differ in the way they utilize sugar.

A few specialists in cancer research now maintain that it is right to talk about the cause of cancer and that the cause is a virus, just as the cause of influenza or measles is a virus.

Belief in the virus theory started in 1911 when Dr. Peyton Rous of the Rockefeller Institute for Medical Research, located in New York City, passed the juice of mashed chicken tumors through a filter so fine that even a microscopic microbe was held back. He injected the filtrate into healthy chickens. Always a tumor grew where the needle had entered. Since then it has been established that warty growths on the ears of some wild rabbits are caused by a virus and that these growths turn into cancers when transplanted to domestic rabbits.

The discovery that did more than any other to strengthen the virus theory was one made in 1935 by Dr. J. J. Bittner, then on the staff of the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine, and now of the University of Minnesota's faculty. He experimented with inbred mice, so that he knew exactly what physical defects and diseases were inherited and what diseases could be attributed to outside influence. Genealogically, his mice were aristocrats with lineages going back for a hundred mouse-generations and more.

In some of these inbred strains of mice cancer of the breast appeared spontaneously in 90 per cent and more of the females; in other equally pure inbred strains breast cancer appeared in only 1 or 2 per cent. Bittner transferred the young immediately after birth, from the mother of a cancerous stock to foster mothers of a virtually cancer-free stock. The number of expected

cases of breast cancers dropped to almost nothing.

Next Bittner transferred the newborn young of cancer-free mouse mothers to foster mothers that were bound to generate cancer of the breast. Many more than the expected number of breast cancers developed. If the mouse mother of cancerous stock suckled her young for only an hour or so, cancer of the breast appeared in nearly all when middle or old age was reached. On the other hand, a whole strain of mice could be saved by feeding it on pasteurized mouse-milk or transferring it at birth to cancer-free foster mothers. Evidently there was an agent in the milk of some strains of inbred mouse mothers that incited cancer of the breast.

What is this inciter? Because it has been seen in the electron microscope, because it has been inactivated by pasteurization, because it has been found in whole-blood, in the spleen, in the thymus gland, in the liver and in the brain, because it can be neutralized in the culture tube with an immune serum, and, above all, because it increased prodigiously in mice to which it has been transferred, it is generally regarded as a virus.

Is cancer of the human breast caused by such a virus? There is no statistical reason to think so as yet. Nor is there any evidence that dairy milk, on which millions of babies have been fed, contains a virus.

Ask a geneticist—that is, a student of heredity—whether cancer runs in families, and he will deny it. What, then, is inherited? A susceptibility, he answers, a favourable soil. But what becomes of "susceptibility" when even the future generations of an inbred stock of mice in which cancer of the breast is transmitted can be protected by the simple expedient of feeding them on virus-free milk? Whether the stock is inbred or not, a virus-laden milk will infect it.

Are all cancers caused by a virus, no matter of what type they may be? Are there as many cancer viruses as there are cancer types? The skeptics in cancer circles balk at this extension of the virus theory. Almost every virus goes to work as soon as it enters the animal or human organism. But not the milk virus, or other cancer viruses, if there are such. It must be assumed that all remain latent for 30 or 40 years. It must also be assumed that all plants and animals, man included, are born with some kind of cancer virus in them, and that the virus springs into action when the right conditions are created.

It was long suspected that there was a relation between some cancers and sex organs. When the sex hormones were discovered and isolated it was possible to experiment. The relationship was there. Dr. Huggins followed up the clue with dramatic results. After careful experimenting with animals he found that when castration cut off the supply of male hormone, cancer of the prostate in men was checked and pain relieved, sometimes rapidly and miraculously even though it had spread to other parts. Cancers even disappeared entirely for a time in a few fortunates. Spaying of females had a transient beneficial effect in about 15 per cent of breast cancers.

Giving extracts of female sex hormones combats the male sex hormone that stimulates malignant growth in male prostates and so produces much the same result as castration. Later, it was found that breast cancers in women stop growing for months and even shrink when male sex hormones are given. Not only this, but the spreading of cancer to the bone is slowed down and damage to the bone is repaired. One-fifth of the first group of men who were treated for cancer of the prostate in accordance with Huggins' method were alive seven and a half years later. The record for cancer of the breast is not so striking. The hormone treatment of cancer of the prostate and of the breast is now officially approved, so that it stands on as firm a footing as treatment by X-rays and radium.

This is no high praise ; for X-rays and radium have thus far disposed only of skin cancers. But the use of sex hormones to check some forms of cancer, if only for months or a few years, is a milestone in medical progress. For the first time it becomes possible to cause some tumors to shrivel merely by taking pills or receiving injections. Thus with Huggins begins the chemical and hence the medical treatment of cancer. Some credit must also be given to the late Dr. W. B. Coley (an American surgeon) who used a toxin made from bacterial products. He checked the development of bone cancers temporarily with his preparations.

During the last war it was discovered that a score of chemicals have striking temporary effects on various types of cancers. Nearly all these chemicals are deadly poisons—a handicap that may be overcome so that larger and probably more effective doses can be given without toxic results.

Most important are the nitrogen mustards, which are related to the mustard gas of evil military reputation and which are at least as effective as the X-rays in prolonging the life of sufferers from leukemia (in which white blood cells multiply so abundantly that they invade important organs). Then there are urethane, also a palliative in leukemia ; the sugary chemicals produced by some germs ; three antibiotics, the generic name of chemicals which, like penicillin and streptomycin, are extracted from mold-like organisms in the soil ; aminopterin, an antagonist of folic acid, which is one of the B-complex of vitamins ; podophyllin, obtained from mandrake root ; colchicine, extracted from the autumn crocus and used for centuries as a remedy for gout ; Fowler's solution or potassium arsenite.

What of the radioactive isotopes, now obtainable at low cost from atomic energy laboratories at Oak Ridge, Tennessee ? As yet they have cured nothing. So far radioactive iodine is the only one that has a pronounced selective action ; it goes straight to the thyroid gland in the neck. sometimes with remarkable temporary benefit, Radioactive arsenic shows promise in the treatment of leukemia, and radioactive phosphorus also does some temporary good in one type of leukemia. The radioactive isotopes are no better and no worse than the drugs that have been used.

All the work so far described does not touch fundamentals. Every cancer originates in a normal cell, which goes wild. What keeps a normal cell normal ? This is the profoundest of all questions that research must answer. A tumor is a useless, shapeless mass that penetrates tissues and organs ; an arm or a leg is a shapely and useful member. Normal cells multiply by self-division and grow into hearts, livers, lungs, skins, eyes in the right locations and stop growing when organs and tissues are of the right size.

Cancer cells do not specialize in this way. No longer subject to restraint they multiply with frightening rapidity and take possession of the tissue or organ where they grow. The end is death. Often a few of these unruly cells find their way into the bloodstream to lodge in distant parts of the body, there to start new malignant growths—a process technically called metastasis, " meta " meaning " later " and " stasis " meaning " place " or " stand."

It is plain enough that the problem of cancer is the problem of growth, normal and abnormal, and it is for this reason that the National Research Council has appointed a Committee on Growth which passes on all research projects submitted by the American Cancer Society.

The problem of growth has many aspects. So far only a few have been studied. Drs. Warburg and Meyerhoff (both Nobel Prize Winners in medicine ; Dr. Meyerhoff is at present professor of research at the University of Pennsylvania) have focussed on enzymes, which are

substances that bring about chemical reactions in the body yet themselves remain intact. Without enzymes, the fermentation of beer and wine would be impossible. Without the enzyme familiar to us as pepsin, we could not digest a piece of meat.

There is indeed a difference in the chemical mode of life of normal and cancer cells—a difference in enzymes. Both types of cells ferment and thus utilize sugar. With the aid of enzymes the normal cell breaks the sugar down into lactic acid, the substance that gives sour milk its taste. Then follows a second stage in which lactic acid is further broken down into carbondioxide, the gas that bubbles in ginger ale and beer and that we exhale when we breathe. A normal cell needs oxygen to burn up sugar completely and leave only carbondioxide. But the cancer cell keeps on breaking down sugar into lactic acid and never reaches the second stage in which oxygen is necessary. A tumor can grow just by splitting lactic acid into sugar without oxygen, but normal tissue dies if it is deprived of oxygen.

All this means that normal cells ferment much as beer does in the brewer's vat or hard cider in a farmer's barrel in the process of changing sugar into alcohol. Cancer cells also ferment, but not in the normal way.

Warburg found out that no fewer than 11 enzymes working in relays are required to ferment sugar into lactic acid, enzyme A preparing the way for enzyme B, B for C and so on. Suppose the chain were broken. If only one enzyme could be inactivated a tumor would stop feeding on sugar and die of starvation. Here we have what may well be the best of all clues to the conquest of cancer.

It may be that somebody will stumble in the darkness of his ignorance on a discovery that will rob cancer of its terror, but it is more likely that such a success will be scored when the fundamental problem of growth is more systematically attacked than it has been and when groups of scientists representing different disciplines are organized for the attack. It was thus that the United States developed an atomic bomb and thus that scientists in industrial laboratories gave us metal-filament lamps, television, synthetic rubber. It is thus that planes that will fly faster than sound are being developed. Let no one answer that it is easier to produce inventions than to evolve and prove theories of growth. Theories are also inventions.

CANCER—DUTY OF HEALTH DEPARTMENT

One of us (Dr. Vishwanath) and Dr. Khem Singh Greval, as the result of an extended study of biopsy and autopsy material relating to cancer available in the records of the hospitals attached to the teaching medical institutions in the country, came to the conclusion that "whether it was the cervix, the oral cavity, the penis, the skin or the gastro-intestinal tract, the factor of irritation seems to excel all other possible causes and *brings the problem of this fell disease within the scope of preventive medicine.*" It is therefore essential to develop an educational campaign in regard to the removal, as far as possible, of the causes of such irritation. This campaign should include, within its scope, both the general public and the medical profession. The people should be instructed to recognise certain early indications which might suggest the presence of cancer and to seek medical advice without delay, in order to ensure adequate examination and treatment, where necessary. The medical profession should be made more cancer-minded and should be trained to recognise early signs of the disease in the patient. *It will be the duty of the Health Departments in the country to provide for such education as an essential part of the campaign against cancer.* (*Italics ours*)

(*Bhore Committee Report, Vol. II, p. 206*).

ON THE STATE OF HEALTH MADRAS CITY

A REVIEW

by

M. O. H.

I am given the unfortunate choice of Scylla or Charybidis in reviewing the annual report of the Health Officer of the City of Madras, for 1948. If I am not critical in my review, a hasty reader might bawl out "Dog doesn't eat dog!" If, on the other hand, I criticise the report, my profession would dub me a 'black sheep'.

To make sure that my natural prejudice in favour of my profession does not blur my vision, I took the precaution of consulting as many friends as were willing to oblige me by giving their own independent views. For my part, I have taken up the responsibility of presenting these views in a form understandable by the laity.

CAN'T THIS BE DONE?

Why should the Commissioner's annual report be for the *official year* and the Health Officer's report be for the *calendar year*? No doubt, reasons—excellent reasons,—may be assigned as to why these two reports should cover two different periods. It may be said that the administration report covers the budget year, whereas the health report covers a calendar year in keeping with the practice all the world over. The health reports are uniformly presented for a calendar year to facilitate statistical particulars being collated. It should be possible for both the reports to cover the calendar year taking the figures of actuals of expenditure to end of December. Such reports as would cover the same period will enable a better understanding of the administration in all its activities. I realise that this is not a matter in which the Corporation has the last word. The Ministry should consider it as a matter of policy and give suitable directives to all local self-governing bodies in the country. This reform is highly desirable.

WHY A SEPARATE REPORT?

Is the health section of the city independent of the other branches of our city administration? Why then should the Health Officer be made to submit an *independent report* to the Council through the Commissioner? Why should the Commissioner, on his part, tear himself away from this branch of administration and forward the Health Officer's report with an endorsement? Further compartmentalism is observed. The Health Officer in his turn gets *independent reports* from his subordinate sectional heads. He tags them on to his report as *independent entities*. The Water Analyst, the Public Analyst and the Superintendent, Child Welfare Scheme, submit their own reports. The net result is that the reader gets confused. A clear, coordinated understanding of the whole of the city administration cannot be had at sight. Few readers can be expected to find the time even if they are interested to read all these reports carefully and get a composite picture of the health of the city. The poor reader cannot be expected to put together these reports like so many pieces in a jig-saw puzzle. He should be given a readymade portrait, and not an exercise to his intelligence. The system of the medical officer of health of a local authority submitting an independent report requires reconsideration. Apart from the wastage of time, and stationery involved, it is observed that even on verifiable information, the reports of the Commissioner and the Health Officer contradict each other! A few instances which catch the eye even on a cursory glance, are given below:

The Commissioner states on page 7 of his report: "The population of the City of Madras, according to the census of 1941, is 777,481"; whereas the Health Officer states on page 2 of his report: "According to the census of 1941, the population of the city was 875,184."

The Commissioner states: "Owing to a great influx of population, it is estimated that the present population of the city is nearly 13 lakhs (1948–49)." The Health Officer states: "The estimated mid-year population for 1948 was 983,087, as furnished by the Director-General, Health Services, New Delhi." According to the rationing authorities of the city, says the report, the population is reported to be nearly 15 lakhs. It is not surprising that the rationing authorities' figures surpass others by such a staggering figure. We, as a nation, have not as yet, developed that high sense of public duty; and one man in reality will shine in the ration census as two or more men according to the digestive capacity of the individual. Persons existing in the imagination of a consumer and even dead persons count for securing rations! Therefore the figures from this source should be summarily rejected. The health report bases the vital statistical rates on the estimated population and the figures embodied in the report

admittedly do not give a correct indication of the state of health of the city for the year under report. Why then waste powder and shot in expatiating on this aspect of the administration of the health department?

The Commissioner states (p. 17): "2,402 houses were provided with flushout latrines and drainage connections during the year. The progress in the construction of flushout latrines had to be slowed down owing to acute shortage of water." The health report states (p. 21): "The construction of flushout type of latrines also made good progress during the year." No comments need be offered; the inference is patent.

Such obvious contradictions and inconsistencies go unnoticed when separate reports are drawn up. On the other hand, if the report on the entire administration of the city is brought under one cover, such glaring inconsistencies could have been avoided. But the safety lies in the fact that few people interest themselves in diving deep into these bulky official reports! Rather unfair to take an undue advantage of the indifference of our people! Our duty is to wake them up from slumber, to make them sit up and think on such vital problems like the health of the people. Only then, we can expect to get their cooperation. Little purpose would be served by appealing to the people that without their cooperation, health administration cannot be a success, when we ourselves do not help them to understand our activities.

VITAL STATISTICS

It is recognised at all hands that the vital statistics available in our country are not only defective, but that it would also be dangerous to draw conclusions from the available figures. At best, these figures may be taken as a general trend of vital events. People should therefore be cautioned not to attach undue importance to the statistics furnished in these reports. In this particular case, it is admitted that the vital statistical rates based on the estimated population and embodied in the report, do not give a correct indication of the state of health of the city. Still, inferences have been drawn from such statistics and comments have been made! Without attaching any special importance to them, a review is given hereunder which will be generally applicable to the country as a whole.

INFANTILE MORTALITY

It has almost become a copy book maxim to say "the infantile mortality is generally taken as an index of the health of a city." This is one of those half-truths which are, perhaps, more dangerous than blatant untruths. In any case, it is too early for the health department to pat itself on the back complacently believing that the 'health services rendered in the city are showing signs of paying good dividend'.

When the infantile mortality rate fell from 156 per thousand births in 1886—1900 to the figure of 80 per thousand births in 1920, the Chief Medical Officer, England, made the point clear in these terms:

> "Whilst it is not possible precisely to differentiate the respective influence of the various factors which have brought about this result, it cannot, I think, be doubted that the main factor has been an improved motherhood, due in no small measure to the extraordinary progress which has been made in the infant welfare movement. . . . The fall in the infantile mortality is not due to any one factor so much as to the general enlightenment and to the coordination of ameliorative agencies in behalf of the mother".

Were any such special steps set afoot during the year under review to secure a *general enlightenment* and the *coordination of ameliorative agencies* in behalf of the mother? In the absence of any such definite and known reasons, it is extravagant to claim that the health services rendered in the city were, in fact, responsible for the reduction of infantile mortality. It would be safer to say that the reduction is due to causes which are not easily determinable, divine or otherwise.

REVISE POLICY

It should be noted that in the very country where the yardstick—infantile mortality as the index of the health of a city—was made, the Chief Medical Adviser, finding that in 1933 the infantile mortality was the lowest, observed significantly:

> "We must not overlook the fact that, if the nation saves infant life on this scale, it must not be surprised if many weakly and perhaps even defective children are saved, which tend to increase the number of unfit. In other words, while it may be claimed that the protection and care of the newly born is advantageous and desirable, it brings with it some new problems and certainly it brings new responsibility."

Mark you, this remark was made in a country where the population had been steadily falling! It is said that we, in this country, multiply at the rate of five million population per year! It is, therefore, necessary that our ministries of health should apply their mind to the subject and evolve policies with circumspection suitable to our country. Hitherto, we have been slavishly following the lead of the West without independent thinking. In our Independen India, we should cut our own path, of course, taking full advantage of the experience gained eleswhere.

SCHOOL SANITATION

We know, as a matter of fact, that school environment and particularly school sanitation in all our schools is deplorably unsatisfactory. Those which are managed by the Madras Corporation are no exception. The provision of *flushout latrines* and the facility for *proper water supply*, whatever they may mean, may sound to be in order. But what really does count is the type which has been provided appropriate to the ages of children. The standard types of sanitary convenience which may be suitable to adults, far from from serving the aim in view, would defeat it. Children cannot be expected to use them properly. They only defile them in their helplessness, Observation establishes it. Their sense of sanitation, if they have any already, receives a set back by using these *flushout latrines*. Further, the provision of an ordinary type of tap to draw drinking water from, takes us nowhere. The details of design, and construction of drinking water fountains as such, do count. We do not seem to be alive to this aspect at all. As regards the other amenities which fall under the category of school environment, nothing has been determined and nothing has therefore been done. Special care is called for to determine the standards of our school environment, adopt them and maintain them at least in some schools. As and when funds are available, they could be extended to other institutions also. This is important in the interest of the rising generation.

SANITATION

No purpose is served by detailing the progress of work on laying sewers in certain areas of the city. Details have already been furnished in the Commissioner's annual report. Further, what useful purpose does the information serve in the report of the Health Officer? Is it not sheer waste of labour and stationery?

TUBERCULOSIS

The report states that " deaths from tuberculosis have been showing a steady increase in the city ". I am afraid the statement is rather far too sweeping. It even borders on scare-mongering! The figures furnished for the past ten years on page 56 of the report, do not substantiate the statement. If any reliance can be placed at all on these figures, it is reported that 1,400 deaths had occurred in 1939 due to tuberculosis, and then it fell to 290 in 1944. It cannot be suggested that this reduction was due to any deliberate improvement effected in the living conditions of the people, nor can it be said that the living conditions have deteriorated to justify the increase subsequently, The truth of the matter, if investigated, will reveal that it is due to defective registration. It is, therefore, dangerous to draw sweeping conclusions from these figures. As the Bhore Committee points out in its report, the figures of deaths from tuberculosis in particular can only be drawn *inferentially*. According to the Bhore Committee, *inferentially*, the estimated deaths per year in British India ranges between 456,647 and 818,934. Here, it is noteworthy that the committee have worked the figures correct to the unit indicating there by a certain amount of accuracy, in their *inferential* estimation! Such figures make one cry " Lies, damn lies and statistics ".

A suggestion is made in the report that the city will need at least one-thousand beds and 20 clinics for effective preventive measures against tuberculosis. If people continue to live in the conditions in which they are living at present, then even the most prosperous country in the world become bankrupt in attempting to provide hospital facilities. This aspect deserves careful consideration. Further, the report states that acute housing shortage and overcrowding in the city have rendered it very difficult to prevent tuberculosis in the city. Wherein lies the remedy? Is it to add to the facilities for early diagnosis and treatment of cases or is it to attempt to improve the conditions of living? Or, is it the new stunt, BCG vaccination?

Deaths in the several wards have been tabulated. If tabulation of figures should serve any useful purpose, it is this. Taking the maximum mortality in a division, one should investigate the causes therefor and suggest remedies. This is exactly the kind of work which medical officers of health should do. But they don't! In fairness to them, it should be said that it is not due to any lack of understanding or interest in the subject but it is due to their being burdened with duties which are clearly outside their jurisdiction. This aspect of the question is elaborated elsewhere in this review.

A paragraph at least should have been devoted on the working of section 56 of the Public Health Act. The report of the medical officer of health should bring to prominence whether or not he has secured the cooperation of the independent medical profession in giving intimation to the health officer about the prevalence of enteric fever or tuberculosis in any private or public dwelling. The other day Dr. B. C. DasGupta, Executive Health Officer, Bombay Municipality, pointed out the practical difficulties he had to encounter in getting information from the medical practitioners. He stated that when in some cases he questioned the doctors for not reporting typhoid cases, he was informed that they were not sure of the diagnosis. The experience of other medical officers of health in this respect is not different but the difficulties should be brought to

prominence so that steps could be taken to secure the willing cooperation of the medical profession. One method of enlisting their cooperation is to give free facilities for diagnosis of these diseases by the health department.

In the city of Madras, there cannot be any difficulty to render this assistance to the medical profession, as the Corporation has its own laboratories. Some years back in Madura, a municipal health officer was able to secure the active and willing cooperation of the medical profession in the notification of diseases by offering them assistance for diagnosis of cases. This is an important aspect of the health administration, if the idea is to nip such diseases in the bud.

OFFENSIVE TRADES

A tabular statement (p. 65) gives the number of applications received and the number of licences granted for offensive trades. 2,282 applications for running 'eating-houses' have been received in 1948 and 2,201 licences have been granted. Our municipalities have not, as yet, determined what requirements should be satisfied in granting licences for *eating-houses*. The so-called bye-laws, apart from being anti-deluvian, are not enforced in practice. Every one knows that most of these *eating-houses* are dirt holes. A visit to the kitchen and a glance at the manner in which food is cooked, stored and served, would be nauseating. Every health officer knows that an eating-house is a potential danger for the propagation of diseases. How many food-handlers are disseminating one does not know! The health deapartment should arrange at least, during the prevalence of typhoid for the medical examination of all cooks and food-handlers in public eating-*houses* and other places where food and drinks are served to the public.

Ice-cream parlours are getting common. Vendors of ice-cream are getting more common in our streets. No one knows how and in what conditions, the ice cream is prepared. But any observer with a sense of hygiene, would be shocked at the manner in which it is stored, conveyed and sold. Ignorant people may be taking in doses of typhoid along with ice-cream! Further, how many people innocently take in regular doses of infection of tuberculosis through infected drinking tumblers is difficult to assess.

Again, 1,797 applications have been received for conducting *shaving saloons* during the period under report; 1,790 licences have been granted. It is common knowledge that these *shaving saloons* are dangerous sources for the dissemination of diseases, unless well-recognised precautions are taken in maintaining scrupulous cleanliness. We know from experience that most of these shaving saloons are veritable dirt pockets. What standards have been set up for permitting the trade? It is difficult to get information as to how many become victims of diseases.

Laundries are also well recognised sources of danger to public health. In the midst of *residential quarters*, we find the so-called laundries. Actual laundering may not be done in the premises in many cases; but it is used as a store-house of dirty linen. Should not a structure be designed suitable for this trade to protect public health?

Bakeries, sweetmeat stalls and coffee hotels are springing up all over the place in some building rented out for the purpose.

The health departments instead of putting its finger ineffectively on every aspect of the health administration, would do well to start an effective drive in *one particular* aspect of work. For instance, the granting of licences for offensive and dangerous trades could be tightened up. It may be possible and even profitable for the local authority to design buildings suitable for each of the trades which fall under this category and rent them out to those who wish to run the business. The rents derived therefrom would be profitable to our municipalities. Apart from this, it will help to set up standards of sanitation suitable to each of these trades. In due course, every one of the traders would emulate the standard set up by the Corporation *in their own interest*. In course of time, it may be even possible to insist upon the structure satisfying these pre-determined standards.

At present the licensing of the offensive and dangerous trades has degenerated itself to the mere collection of the licence fees! The main purpose of licensing the offensive and dangerous trades is to protect public health; the collection of licence fees should be but a byproduct.

FOOD CONTROL

Slaughter-houses

Reference is made to the slaughter-houses maintained by the Corporation. These so-called slaughter-houses do not come anywhere near the standards set up for modern abattoirs. The animals brought for slaughter to the four slaughter-houses maintained by the Corporation are said to be examined and those found in unhealthy condition are not allowed to be slaughtered. But what about the animals which are slaughtered in private slaughter-houses? As regards the sale of meat, there are many private places where meat is exposed for sale under most unhygienic conditions. These private slaughter-houses and stalls are scattered throughout the town. Surely, this is not the way of protecting the health of the meat eaters.

The medical officers of health in the Madras Presidency would, of course, refuse to follow the bad lead given by a former Director of Public Health, who said that one need not

bother about any health aspect on the question of raising vegetables in a sewage farm when they are cooked before consumption! It cannot certainly be suggested that the recognised methods of conditioning meat for sale to the public are unnecessary on the ground that the meat is well-cooked before eating!

FOOD ADULTERATION

The number of samples taken, *viz.*, 4,035 is totally inadequate and incommensurate with the number of vendors or consumers.

The report reads that 2,054 samples of milk were analysed for the period under review. It is not known in how many cases *repeat-samples* were taken. A recognised method for an effective drive against adulteration is to follow up the cases by taking repeat-samples, and to book the persons, who persistently adulterate milk supply, in particular. The aim should be to liquidate such persistent and unscrupulous vendors from the trade. From a cooperative milk-supply society, the so-called *pasteurised* milk is sold to the public in the city. What steps have been taken to see whether the quality of milk as sold, satisfies the requirements of pasteurised milk? If it does not, the word 'pasteurisation' would mislead the public. No reference is made in the report to the subject.

Further, for effective control of food adulteration, the morale of the personnel (basic staff) is of the greatest importance. Responsible officers should systematically move out and arrange for the collection of samples *at short notice* from specific markets or localities. It appears that the Government have laid down that at least 25 per cent of the samples should be taken by responsible officers. Perhaps, it may be argued that it is not quite practicable. The alternative is for a responsible officer to chalk out a programme of *surprise collections* of *samples without any previous knowledge to the sample takers.* In fact, in Madura a former health officer managed this very well and struck wholesome terror among the unscrupulous traders. Test samples may also be collected by some responsible officer once in a way.

The purpose of analysis is not merely to find out the degree of adulteration but also to determine how far the unadulterated samples keep up to the expected standard from analytical point of view. No information on this important matter could be gleaned from the report. It would be better to determine the quality of the various food articles, so that one may have to follow up the variation from year to year. The public should be given some idea as to how this quality varies from year to year. Taking milk-supply, for instance, the public should be told whether the quality of genuine milk is maintained or is getting deteriorated. The Public Analyst should give such information as is given by public analysts in the West.

Recently, at an annual convention of the oil technologists of India at Cawnpur, pointed attention was drawn to the dangers of adulteration of edible oils with mineral oils, which are being imported of late into this country in large quantities. Owing to the high price and the scarcity of edible oils, the mineral oils are used as adulterants. Large scale adulteration in this manner is reported to be taking place in many mofussil stations as also in the city. The report of the Public Analyst of the Corporation does not show even a single such instance! It is impossible to believe that the moral standard of merchants in the city alone has increased to such an extent that their conscience does not permit them to take advantage of adulterating edible oils with mineral oils!

The fines imposed on the culprits are hopelessly inadequate having regard to the gravity of the offence and the menace to public health. The punishment ought to be deterrent and the Act should be so amended as to impose infinitely heavier fines including imprisonment, in case of persistent offenders. The recent instance of a certain milk vendor in the city having laid a trap to catch the food inspector only demonstrates the corrupt practices in vogue! Even the health department is getting infected! It is time it discovers a vaccine to confer immunity against this raging epidemic of corruption. Knowing that corrupt practices are in vogue, meticulous supervision by the higher officials is called for, instead of leaving things to underlings.

From all accounts, the administration of the Madras Prevention of Adulteration Act is far from satisfactory. The administrators have not brought to the notice of Government the precise practical difficulties they encounter in administering the Act. Specific instances of difficulties should have been brought to the notice of Government instead of mere generalizations. The report under review does not disclose even a single instance to illustrate the difficulties experienced in the working of the Act except pointing out that the fines imposed by the magistracy are far too inadequate.

HEALTH PROPAGANDA

Educating the public on matters of health is an important work of the health department. It is usually done by lectures and distribution of printed leaflets. This kind of education has not yielded results nor can it be expected to. What should be done is to contact individual householders by the health official of the division and help them to improve and maintain 'premises sanitation'. This takes us to another important aspect of the health administration, which has not been given any attention hitherto. There is no good of

attempting to keep our thoroughfares clean leaving the dwellings alone. Every premises should be maintained in a sanitary state day in and day out by attending to the details of premises sanitation. It is reported that Dr. D. K. Visvanathan, Assistant Director of Public Health (Malaria), Bombay, has achieved great results even to the point of eliminating plague infection, by adopting the new technique of premises sanitation. This method is bound to yield equally excellent results if followed here also.

House-to-house inspections are reported to have been made by the health staff of the Corporation. During the year under review, 36,356 houses were inspected by the division sanitary inspectors. In this context, the number of houses in the city could have been given and an indication of the overcrowding of dwellings could have been made also profitably. Again, these so-called house inspections do not count for much. These inspections are apparently made to find out the so-called sanitary defects, which fall under these categories: drainage, latrine accommodation, water-supply, ventilation and "otherwise defective". 5,267 houses out of 36,356 inspected are reported to be "otherwise defective." This does not take us anywhere. The precise nature of these 'other defects' could have been very well given, with advantage. These inspections will not help us to know the general hygienic standards of the houses in the city. How many of them are subnormal is an important detail as also how many could be improved and how many should be condemned outright as unfit for human habitation. No such information is forthcoming. This can be done only by adopting the well recognised "marking system".

ANTI-MALARIAL OPERATIONS

Instead of calling it anti-malarial operations, it would be appropriate to call the activities "anti-mosquito drives." Mosquitoes are a nuisance irrespective of their species and deserve eradication. The health department should direct its attention to the annihilation of the mosquito pest as such.

The health report states that all the wells in the city are regularly inspected and larvicidal fish are put in them. To secure the safety of the wells, they are chlorinated periodically. But complaints are heard that in the process of chlorination, the fish are killed. The owner is put to the necessity of removing the dead fish and baling out the water. Sometime afterwards, the fish are again put in the wells. Thus the vicious circle continues. Complaints come to notice that those in charge of chlorination of wells are innocent of the technique of chlorination. A complaint from a very high technical authority shows that when he questioned the subordinate, who went to chlorinate his well, on a few technical points, he was shocked to see the man's ignorance. He did not know whether the bleaching powder he had with him had any chlorine at all in it. He did not know what was meant by *available chlorine.* It is therefore clear that the subordinates in charge of chlorination know little about the work and it is misleading to state that the wells are chlorinated. Chlorinating a well at intervals cannot ensure bacteriological safety of the water. A better system would be to educate the householder and make him chlorinate his well at *his cost* in his own interest.

An elaborate description is given on the measures taken to control mosquito nuisance. How far the operations are successful, is not, however, given. Have they set up *catching stations* to check the results of the work? If so, where have they been located and with what results? This would have materially helped to understand the results achieved by the expensive operations undertaken.

As regards reclamation of low lands by dumping street sweepings, the process adopted here is *indiscriminate dumping* which has been long condemned. *Controlled tipping* has developed scientific aspects. The technique adopted is well recognised. The depth of each filling, its consolidation, the top-sealing, all these have a great influence on the success of controlled tipping. Not in one case, can it be claimed that these scientific details have been observed. A professional circular on the subject should be distributed among officers who are in charge of public cleansing. It should bear the seal of some high technical authority.

DELIMIT THE FUNCTIONS

Tradition dies hard. The traditional duties thrust upon the medical officer of health involve clear waste of technical talent. Highly qualified specialists like the medical officers of health should not be burdened with duties which are clearly outside their scope. For instance, what has the Corporation Health Officer to do with *People's Park*, zoo, weights and measures, markets, slaughter-houses and above all conservancy? As a previous Director of Public Health stated, conservancy continues to be a main duty of health officers! These functions should devolve upon other heads. The medical officer of health is essentially a man with a scientific training in medical aspects of public health and with a scientific turn of mind by training. His designation should be changed into "Medical Officer of Health". The M.O.H. should be allowed to investigate the reasons for the degeneration of health in a community and to suggest remedies therefor. For instance, *Ashok Vihar*, which is a

unique institution in the city of Madras, after the Peckham experimental station, could be better utilised for collection of valuable statistics, correlating the economic condition of the members of the institution and its reaction on their health. Reliable statistics could also be collected as are being done at the Peckham experimental station, correlating the economic conditions with births, marriages, deaths and the state of health among the members. This is exactly an aspect of public health on which very little statistical particulars are available now. If the M.O.H. is not burdened with extraneous duties, which are clearly beyond his competency or inclination, he would find time to apply his mind on public health aspects of this kind. There should be a clear-cut delimitation of functions as among the several departmental heads in a municipal administration, suitable to their training. This reform is overdue. We can no longer afford to waste the available technical talent by putting square men in round holes.

WATER-SUPPLY

The report of the Water Aanalyst has been incorporated in the health report, as also details of statements of water analysis covering ten pages (pp. 65–75). It means nothing to an ordinary reader. What the consumer of the city water-supply knows is that at times the water is overdosed with chlorine to such an extent that everything prepared with the water smells of chlorine, and the very touch of water leaves a smell of chlorine on the hands for some time. This is the case when the health authorities suspected any danger of a waterborne epidemic ahead or when the Red Hills reservoir get a fresh supply of water. This leaves an impression in the minds of the consumers that chlorination as practised in the city water-supply is faulty. Who should be held responsible for efficient sterilisation of water has been a moot problem, at any rate so far as Madras Presidency is concerned. Is it the medical officer of health or the engineer in charge of waterworks? A former Director of Public Health wanted to entrust the responsibility to engineers. The health officers felt that they were not equipped to handle mechanical apparatus used in chlorination. Instances are not wanting where expensive mechanisms were out of order for long periods necessitating the crude method of chlorination with bleaching powder of indefinite quality.

To recount an incident which took place some years back would be of interest in this connection. A town was threatened by an epidemic of cholera. The Director of Public Health directed the local health officer to chlorinate a tank which was an important source of water-supply to an area. Water was being drawn from it by a pumping plant. The pumped water was stored in a reservoir with taps all round. It so happened the Director of Public Health and the Sanitary Engineer visited the station soon after in some other connection. Incidentally, the Director wanted to check up the chlorination of the tank in question. He found that nothing was done to carry out his directive. Whereupon, he questioned the local health officer. He replied that the Chairman, Municipal Council, did not like chlorination! The Director grew rather indignant and rebuked the health officer. The Sanitary Engineer put an innocent question to the health officer to explain to them how he would chlorinate the tank. To the surprise of all assembled, the health officer replied he did not know. This episode ended in a tragedy which one need not state in this context. But the point to be stressed is that the technique of chlorination as practised in the city and elsewhere in this Presidency is amateurish. This aspect of protecting water-supplies deserves consideration at the highest technical levels and responsibility should be clearly fixed.

The analyst's report should legitimately form part of the water-supply section of the main report of the Commissioner. The Health Officer's remarks should confine to the reaction of the water-supply on the health of the city. His duty should be limited to drawing attention of the engineer in charge of waterworks, to the defects in the quality of water which are likely to have an adverse influence on the consumer. He may even suggest what, in his opinion, should be done to correct them but the full responsibility should rest with the officer in charge of the maintenance of waterworks. This clear-cut division of duty is necessary so that the responsibility may be pinned on to a proper authority.

PLACES OF PUBLIC RESORT

It is noteworthy that, in a health report, no reference has been made on the conditions of the places of public resort in the city, more particularly about the cinemas, theatres and music halls. These places of amusement are usually packed to the full. In some cases it is no exaggeration to say that the people are packed in them like sardines in a tin. Usually we, health officials, advise our administrations to close down these places of public amusement, should there be any outbreak or threatened outbreak of infectious diseases in our areas. We, therefore, realise the importance these places play in the control of epidemics. That being so, is it not necessary to review the conditions of these places of amusement, the defects noted in them set out and the effective remedies to be suggested. It is idle to do propaganda for the control of respiratory diseases without our taking adequate steps to prevent people from contracting them in congested buildings of this kind.

We, medical officers of health, do not lay claim to know the technical details of ventilation of these premises. It is for ventilation engineers. It is a speciality. Apart from this aspect, there is the question of seating accommodation, knee-space, elbow-space, gangways, avoidance of steps in them, the location and nature of the sanitary conveniences provided and so on. The Places of Public Resort Act is an ancient one. It was placed on the statute book in 1888 soon after the disastrous fire which broke out in Park Fair in Madras. The Act itself is but a skeleton! The rules framed thereunder from time to time, are innocent of modern developments in the design and construction of places of public amusement like theatres, cinemas and music halls. The rules primarily aim at safety to the public from police point of view, and public health plays a subordinate role. This is the subject on which some thinking at high levels is called for, remembering the tragedies which have occurred so far in the country in these places of public resort. It is unnecessary to list out here the tragedies except to draw attention to the disaster at *Moti Mahal* Cinema, in 1936.

FINANCE

In every branch of administration, financial details are essential. In fact, these details are to a report what eyes are to a face. Even details such as cost of establishment, purchase of chemicals and the like for *each of the activities of the health department* should find a place in the report. It is only then would it be possible to watch the results having regard to the money expended.

TO THE AUTHORITIES

The higher authorities will be assisting this class of officers to perform their quota of service to the public, if they clarify many of the issues raised in the foregoing review. For instance, the Director of Public Health will do well to bring this subject before the next conference of health officers and permit them to have freedom of expression so that the subject could be thrashed out from all points of view.

No reference has been made in the review to the role which the Sanitary Engineer to Government has to play. It is because we have not developed in this Province and indeed in this country, a profession known as public health engineering. The Sanitary Engineer's activities are confined to a very limited field. It is open to him to develop his department into one which could be geared up with public health administration. At present, this branch is but a handmaid of the general engineering profession! There is, therefore, little prospect of the profession of public health engineering coming into existence. We, medical officers of health, are compelled to shoulder duties which are not legitimately our own. We do our best, in the absence of qualified public health engineers. We should not be blamed if we are unable to do justice to the work which is clearly outside our legitimate field.

The Government review on these reports are, as a rule stereotyped. The review of Government should indicate that at the highest levels some careful thinking has been exercised.

CONCLUSION

I am greatly indebted to friends who have furnished such a lot of details on the report. I could not very well omit any without the risk of incurring the displeasure of my obliging friends. The review is *rather long*. I cannot help it.

We should feel indebted to the Editor, *People's Health*, for having given space for the publication of this review in full. It must clearly be understood, however, that in the foregoing criticism, no ill-will towards any person or class of persons is intended.

The review would be incomplete without mentioning a word about Dr. S. E. D. Masilamani, the City Health Officer. Those who know him intimately appreciate his excellent intentions to render service in his own field of work; but like most of us, he also suffers many handicaps incidental in our municipal administration. Give us the freedom to act and pin responsibility on us; we are willing to shoulder it. Indeed, in Independent India, every professional is expected to do his very best in the interest of the country without any consideration for monetary remuneration which one might get. Dr. S. E. D. Masilamani is one of us. He is also motivated by the loftiest ideals. In this report, he has only followed the tradition—a legacy bequeathed to him by his official predecessors! He has done his very best in the circumstances.

THE FIRST RIGHT OF MAN

" That every man without distinction of race, of colour, or of professed belief or notions, is entitled to nourishment, housing, covering, medical care, attention, sufficient to realise his full possibilities of physical and mental development and to keep him in a state of health from his birth to death ".

—H. G. Wells.

* * *

PERFUME OF HAPPINESS

Happiness is a perfume you cannot pour on others without getting a few drops on yourself.

* * *

SCARED TO DEATH !

Patient : " Doctor, I'm scared to death. This will be my *first* operation ".

Doctor : " Sure, I know just how you feel. You are my *first* patient ".

* * *

WHY LIVE, THEN ?

Who lives *medically*, lives *miserably*.

—Robert Burton.

* * *

STATISTICS *ARE* STATISTICS

Patient : " What are the chances of my recovering, Doctor ?

Physician : " One hundred per cent Medical records show that *nine* out of every *ten* die of the disease, you have. Yours is the *tenth* I've treated. Others all died. Statistics *are* statistics. You're bound to get well.

* * *

HEALTH EDUCATION

Public Health Education is the power that keeps in motion the machinery of sanitation.

—Sisco.

* *

AN UGLY TRICLE

Some men employ their health, an ugly tricle;
In making known how oft they have been sick.

—Cowper.

* * *

COMPOSITION OF HEALTH

Cheerfulness, Sir, is the principal ingredient in the composition of health.

—Murphy.

* * *

WHAT DOES HEALTH MEAN ?

Health is not negative. Health means more than simply keeping out of a physician's office. It is a positive condition of the body which gives us a long life of zest and buoyancy.

—J. Craig Bowman.

HEALTH IS WEALTH

To gather riches, do not hazard health,
For truth to say, health is the wealth of wealth.

—Sir Richard Baker.

* * *

SINNERS' PENALTY

He that sinneth before his Maker, let him fall into the hands of a physician.

—The Apocrypha.

* * *

MEDICAL SCIENCE'S FINDING

Medical science has developed so amazingly within the past few years that it is now almost impossible for a doctor to find anything all right about a patient.

* * *

PRESCRIPTIONS !

Dr. Cheyne once, when Nash was ill, drew up a prescription for him, which was sent in accordingly. The next day the doctor coming in to see his patient, found him up and well ; upon which he asked if he had followed his prescription. " Followed your prescription ", cried Nash, " No. Egad, if I had, I should have broke my neck, for I flung it out of the two pair of stairs windows."

—Oliver Goldsmith.

* * *

DISEASE ABATES

When the Sun rises, the disease will abate.

* * *

MOTHER OF HEALTH

Poverty is the mother of health. (English Proverb).

* * *

THE HIGHEST LAW

The health (or safety) of the people is the highest law. (From 12 Law Tables at Rome.)

CURED !

Brown : " Your wife used to be so nervous, old chap. Now she seems quite cured."

White : " Yes, the doctor simply told her it was a sign of old age."

* * *

WHY ?

Physicians as a class enjoy the best of medical care : yet they do not live longer than other males.

—J. A. M. A.

* * *

STILL A SECRET !

It is gathered from many articles printed that the secret of health is still a secret.

* * *

PICTURE IN A FRAME

The picture of health requires a happy frame of mind.

* * *

A CURE WITHOUT A DOCTOR'S AID :

The best cure for insomnia, says a doctor, is to sleep with all the bedroom windows open. This is one of the few sleeping drafts that can be obtained without a doctor's prescription.

* * *

A PROFITABLE SPECIALITY !

A doctor who had taken up as his speciality the treatment of skin diseases was asked by a friend why he happened to select that particular branch of medicine.

" There were three perfectly good reasons," replied the physician. " My patients never get me out of bed at night—they never die—and they never get well."

" Books are Weapons in the War of Ideas." " Some Books are to be tasted, others to be swallowed and some few to be chewed and digested" . . . and some to be eschewed !

Name : FOOD FOR HEALTH.
Author : Dr. D. Subba Rao, Nutrition Officer, Madras.
Issued by : The Director of Information and Publicity, Government of Madras.
Page : 12. *Size :* 7"×5¼". *Price :* Not fixed.
Published : In 1949.

Sometime back, the Government of India issued a bulletin entitled " Nutritive Value of Indian Foods and the Planning of Satisfactory Diets " (Health Bulletin No. 23). A perusal of the pamphlet under review, conveys an impression that it is an attempt at reproducing in a modified form the Government of India's bulletin referred to above.

The advice tendered in this and similar pamphlets are of little *practical utility* to the common-man. For one reason, these pamphlets do not reach him at all. Even if they do, what is the good of asking him to take a *balanced diet* as advised by the nutrition experts, when he has not got the wherewithal to purchase the articles of food specified ? Assuming that he gets the required money somehow, wherefrom is he to procure the articles of diet scheduled by our experts ? The advice tendered in this pamphlet is like the story in *Alice In the Wonderland :* " If you have not bread to eat, why don't you eat cakes ? " Our experts, who are comfortably paid can afford to dole out such utopian ideas !

The primary object of the researches by the experts in nutrition should be to help the food producing departments to take necessary steps to produce such articles of diet as are considered essential for the common-man. The production of the articles of food should come first. Thereafter, the people should be advised to procure them. There is absolutely no evidence to show that any such co-ordinated attempt is being made by the Central and Provincial Governments to programme their food production policies in the light of the expert opinion. One Minister is in charge of agriculture, another in charge of food and a third in charge of nutrition and health ; one Minister does not know what others are attempting to do in respect of their own fields ; such is the co-ordinated activities of our Governments !

There has been an unfortunate tendency in recent times to lay undue stress on the caloric inadequacy of our food. In trying to focus public attention on this aspect, other important aspects of the food problem are not given due attention. Propaganda to use sweet-potato, yam and banana to fill the gaps in our dietary is going on. Why not obtain foods which can be readily produced and marketed ? For instance, there is an inexhaustible quantity of fish available in our sea. Why not provide rapid and suitable transport facilities and marketing to enable plenty of these nutritious food being made available to the inland ?

Take, for instance, the nutritive value of ground-nut. It has not been fully exploited. It is produced in the country and exported to foreign lands. It is a commercial crop for sale elsewhere. It is not considered a foodcrop for the benefit of the people. And why ? If all food of this kind is made available to the people, the cereal consumption would automatically decrease. These and similar ideas occur as one peruses the pamphlet under review.

Coming to the pamphlet itself, it is intended to educate the people in the Madras Province. There is not a shred of evidence to show that the South Indian food practice had been investigated at all with a view to finding out the deficiencies in it and how those deficiencies could be got over. Some little research has been done on South Indian food habits, but absolutely no information is available in regard to the food as actually cooked and consumed by the people of this Presidency. But one is tired of hearing from our experts that the South Indian diet is deficient. And one asks, ' deficient in what ! ' How can one arrive at sweeping conclusions like this without carrying out any research in the field ? Not only should researches be carried out on food as actually cooked and consumed, but also on the living habits of our people, as for instance, periodical starvation and special diet after starvation, food in normal conditions and food in ill-health, etc. There is a vast field for research.

Far from conducting investigation in the proper fields, our nutrition experts talk of " conditioned or secondary malnutrition ", as the author of this pamphlet does on page 10. On page 11, the author refers to " ingrained food habits which newer knowledge on nutrition tells us, are unsound ". Newer knowledge indeed ! Is it the knowledge acquired as a result of researches carried out by the nutrition experts of the West among their own people ? We may put a specific question : What newer knowledge o nutrition have our experts here, acquired ?

On page 8 what is said to be the wheel of good-eating is given. There are seven classifications in this wheel. Group 4 mentions " milk and curds ". The grouping is obviously misleading. Do not ' milk and curds ' fall under the category of protein foods as also the fatty foods ? The wheel ignores most of the country vegetables which are in common use and which are within the easy reach of the poor ; but they are not " yellow ". Have not these country vegetables food value at all ? What is the vitamin value in our country vegetables ?

Again, butter is included in group 5 under protein foods ! Even in such details of classification, the author has not exhibited his expert knowledge on nutrition !

On page 7, the composition of a balanced diet is given. It is said that the cost of such a diet including fuel would be Rs. 1-4-0 per adult per day, at the present rates. Does the author seriously expect that the ordinary man would ever be able to find money to secure *a balanced diet* according to his specifications ? Did it not occur to him that the science of nutrition should show the way for the poor man to have at least *protective foods* in the present economic conditions ?

The pamphlet ca not be considered to be helpful to the poor and the needy, who are in dire need of education on *practical aspects of nutrition* in their limited economic condition. Publication of pamphlets of this nature, far from helping the common man in shaping his diet practice suitably, would only help to shatter his lingering faith in experts on nutrition ! . Any grandmother, utilising the locally available food stuff, would give recipes for a *balanced diet* or a *protective diet*, as the modern experts classify them, than pamphlets of this kind. She can also give excellent recipes for suitable diet of the sick better than our medical experts in hospitals ! The reviewer really means what he says.

A DIETETICIAN.

HYGIENE AND SANITATION
"*Arogya Vidya*", (In Malayalam).
Author : Major P. Mohamed Ali.
Publishers : P. A. Saleem, Trichur.
Published : August 1949 ; *Size :* 7"×5".
Price : Rs. 1-8-0 ; *Pages :* 184.

The book is divided into three parts. The first deals with soil sanitation, water-supply, housing, nutrition, personal hygiene, disinfectants, etc. The second comprises short chapters on preventible diseases like cholera, typhoid, dysentery, cold, tuberculosis, small-pox, chicken-pox, plague, malaria, leprosy, syphilis and gonorrhœa. The third deals with the care of pregnant women, infant feeding, mental diseases and first-aid. In addition to these, the author has usefully reproduced his pamphlet on compost-making. Thus, the book deals with a wide range of subjects.

An environmental sanitarian would have preferred a fairly comprehensive description of the public convenience, which the author recommends, pointing out at the same time the defects in the traditional types of latrine which are in vogue in *Kerala*. The author has wisely pointed out that the matters covered in the book should not be taken as the final word on the subjects. It is to be hoped that when the book is revised, the classification of the diseases would be appropriately done.

In regard to the spread of hookworm, the more common method of infection is through the skin, but very rarely, if at all, through the articles of food and drink. A change of emphasis is desirable.

The object of the author is primarily to create an interest among the lay public on hygiene and sanitation and to create sanitary cŏnscience among them. The language used is easily understandable and it should prove very useful to the pupils of upper secondary schools.

—Environmental Sanitarian.

Name : INSURANCE—A Practical Guide.
Author : S. B. Ackerman, A.M., LL.B.
Publishers : The Ronald Press Co., New York.
Published : In 1948 (III Edn.).
Price : Not mentioned.
Pages : 769. *Size :* 9½"×6½".

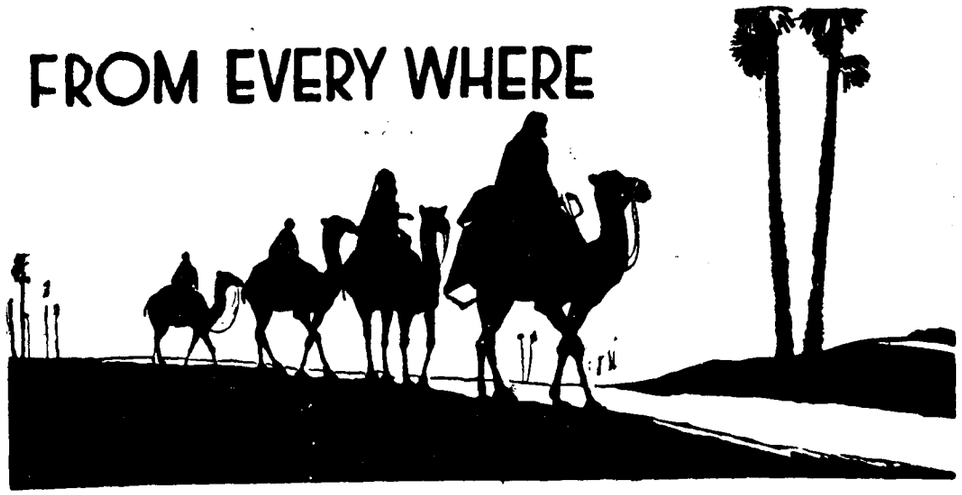
The book is what it claims to be a practical guide to all branches of Insurance. The text has been so prepared that the average citizen, the buyer and seller of merchandise, the insurance student and executive, the insurance agent and broker, could all find everything that should be known by them about insurance. It deals with about twenty major heads of insurance, such as Life, Fire, Marine, Automobile, Aviation, Livestock, etc., and incidentally discusses the variations of types under each head. The text is singularly free of any obscurity, rhetoric and literary frills and treats the business problems in a businesslike way. It does not deal either with the theory or law of insurance. But it is no defect but a merit of the book. For in spite of its exclusive American sources, the business aspect of insurance unlike the theory and law of it is of universal application. It is a book which deserves a place in every insurance library and should be read by every insurance man in this country, at least to realise the vast field in insurance that is present to Free India.

S. Parthasarathy.

MAXIMS RESPECTING A BOOK :

My maxims are : never to begin a book without finishing it ; never to consider it finished without knowing it ; and to study with a whole mind.

—Buxton.



WHAT DO THEY SAY ABOUT IT?

Readers can contribute to this section. They are requested to send extracts of current literature which, in their view, would interest the people. —Ed., P.H.

THE CHILD AT PLAY

One evening, while listening to some very fine music, I asked myself which sounds gave me the most pleasure? I thought of the different kinds of music, the different instruments, the human voice ; I thought of Shakespeare's plays enacted by great actors ; but at the end of my thinking, I reached the definite conclusion that the sounds which gave me the greatest pleasure were those made by a group of happy children at play. I think this is so because the children are experiencing a pure and uncontaminated joy, which, in some measure, their voices communicate to a receptive listener.

Have you ever thought of why the child plays? There can be no doubt, but that the desire for play in the child is instinctive, and not learned. One does not have to teach a normal child to play. But why is this instinctive tendency there? In the past, adults have, to a great extent, regarded the child's desire for play as a bad thing to be curbed, and allowed only in small doses. Play, they thought, was a waste of time. If a boy were to get on in the world, he needed to work and work hard, and surely play did little to fit him for the serious business of life. On the surface, this view of the question seems eminently reasonable. But now-a-days we know a great deal more about the child, and his development to maturity. We now know that play, far from being a bad thing, is actually a preparation for adult life.

(ASK THE CHILDREN by
Lt. Col. Ford Thomson, I. M. S. (Retd.)

WHY DOES PARBOILING INCREASE THE THIAMINE OF RICE?

Why does rice which is parboiled before it is milled, possess the power of banishing beri-beri from the population which subsists on it?

It has generally been accepted that parboiling distributes the vitamins of the pericarp and germ throughout the whole grain so that milling can remove 'only a small part' with the bran. Many

analyses have shown that parboiled rice is richer in thiamine than raw milled rice, which agrees with the experience that beri-beri is rare where parboiled rice is the staple article of diet.

It is known that the thiamine of cereals is not evenly distributed throughout the grain but is mainly concentrated in the outer coats of the grain and in the germ, consisting of the embryo and the attached scutellum. Experiments carried out for determining the content of each of the different structures of wheat grains showed that there was an exceptionally large concentration in the scutellum. Although it formed only 1·54 per cent of the grain, it contained 59 per cent. of the thiamine of the grain. However, analyses of such grain fractions from among the flour fractions prepared by the miller do not necessarily show such high concentrations because of the partial mixing of the products from different parts of the grain which occurred within the mills. It has also been shown that the scutellum of rye, maize and barley has a similar high content of thiamine. It seems probable that this is true of all grains, including rice.

Large numbers of grains from several samples of raw milled rice and parboiled rice have been examined. It has been reported that the great majority of the grains of raw rice have a concavity marking the site from which the whole germ (scutellum and embryo) has been detached. On the other hand, the grains of parboiled rice do not show the concavity, but the site of the germ is flattened as though only part of the germ has been removed by milling. It seemed that parboiling has made the scutellum more adherent, so that it had not been detached during milling.

Parboiling and also the new conversion process (parboiling first under vacuum and then under pressure) toughens the rice so that for fewer grains are broken during milling than with raw rice. This lowering of the brittleness would help the retention of the scutellum. It was concluded that parboiling probably does cause some movement of the vitamins within the grain, but its chief value may be the retention of the scutellum in which Vitamin B1 is most concentrated.

(*Food and Nutrition, Bulletin No.* 47)

PUBLIC HEALTH AND THE FLOOD :

(*David L. Piper, Health Bul. Oregaon State Board of Health*, 26, 3-4, (*July* 7, 1948.)

Health problems due to the flood of 1948 are listed as those which arose immediately and those which developed in connection with repair, clean-up, and salvaging operations. Three major health hazards resulted from the flood, namely : Outbreak of typhoid and dysentery carried directly by the flood ; food poisoning from improper emergency handling of food ; and spread of communicable disease among evacuees crowded into emergency shelters.

This service resulted in no developments of the hazards except for one outbreak of food poisoning. However, the job continues until the flood waters have receded and cleaning and rehabilitation work finished. The health measures included typhoid immunization, serums to control measles, antimosquito, rat and fly programmes, a public information and education programme, formulation of standards for sanitary control of flood areas, laboratory service for testing water supplies and arrangement for supply of immunizing agents for other diseases as needed.

—*J. W. WISEMAN*

(From *P. H. Engg. Absts.—Vol. XXIX, No.* 1—*Jon.* 49.)

THE ROLE OF WATER IN THE ETIOLOGY OF POLIOMYELITIS :

—*Ralph R. Scobey*

(Reprinted from *Arch. Pediatrics*, 63, 567—80 November, 1946)

The author attempts to show correlation between peak years of poliomyelitis in 1916, 1930 and 1931 with drought years which he reports as occurring in 1916, 1930 and 1931. He does not associate the peak of poliomyelitis in 1946 with drought. He next indicates that drought is correlated with a high degree of pollution of water with hydrocyanic acid or its compounds as a result of concentration of organic matter in the water. He dwells at length on this relationship to the occurrence of poliomyelitis making the statement that " poliomyelitis is the result of poisoning by hydrocyanic acid " and concluding with " The correlation of the evidence thus far available would serve to indicate conclusively that the hydrocyanic acid content both in food and water supply is basically significant in the cause of a group of diseases of which poliomyelitis and pellagra are examples." In this group, he also infers that the additional diseases of rickets, gastro-intestinal disturbances, and jaundice are caused by the same etiological factors, referring principally to cyanide poisoning. No mention of infection is made, as with a virus ; in fact, it is pointed out that cyanide is an antiseptic. No data are presented to substantiate high cyanide in the specific food or water supply consumed by individuals contracting poliomyelitis.

—*JOHN S. WILEY*

(*P. H. Engg. Absts.—Vol. XXVII, No* 1—*Jan.* 48)

FACTS ABOUT FATIGUE

(*Indus. Health Bul., Ottawa, Can.*, 2, 1—3 ; *August*, 1947)

The article declares that fatigue is an important problem for industry which merits serious attention from management. The health, both physical and mental, of an employee is often the basic cause for fatigue and therefore it should be the purpose of management to help the worker maintain good health at all times. This can be accomplished by replacement and periodic medical examinations, health education, and general supervision of workers' health. There are many environmental factors which also contribute to fatigue, among which are temperature, illumination, and noise. All of these factors are controllable, and an effort should be made to correct them. Other factors contributing to fatigue are the hours of work, method of work, boredom, and morale of the workers. It is important, too, to consider not only one physical aspect of man but to remember that each worker has his own personal problems which by causing mental strain also enter into the fatigue picture. Along with this, to successfully combat fatigue, it is necessary to take into account not only the hours spent by the worker on the job but also those of the job.

—*Robert M. HYMAN & Pauline S. WILSBACH*

(From *P.H. Engg. Absts.—Jan.* 1948, *Vol. XXVIII, No.* 1)

BEWARE OF THOSE RIMLESS SPECS ! LIKELY TO CAUSE CANCER

—Warning by *U. S. Medicos*

A warning that face cancers may be caused by rimless spectacles has been issued by the American Medical Association (AMA). The rimless spectacles, says the AMA, may focus the sun's rays on the face below the lens in a sort of " burning glass " effect. The resultant irritation may become cancerous.

The Medical Association recommends that persons who habitually wear rimless eye-glasses apply small spots of rim black, an optical lacquer, to the upper and lower edges of the glass lens. Such spots would break up the light beams and prevent radiation burns.

Discovery of the danger was made by four dermatologists of Jefferson Medical College, in the city of Philadelphia, and first reported in the Archives of Dermatology and Syphilology.

(*Sunday Times, Sep.* 49)

TUMORS :

Question : What is the cause of tumor ?

Answer : A tumor represents an overgrowth of tissue and may occur in practically any portion of the body. For example, warts are tumors produced by an overgrowth of the outer portion

of the skin. Fatty tumors may develop beneath the skin as the result of overgrowth of fat tissue. Bone tumors, tumors of nerves, muscles and tendons are produced in the same manner.

The exact reason why most tumors develop is usually not easily determined. In certain forms of tumor injury may be responsible. Medical science is still seeking to determine what may be the cause of tumors that fall into the cancer classification.

(*Hygeia—The Health Magazine, Sep.* 49)

RATS—A SOURCE OF FOOD!

Garbage disposal in China is simplicity itself—there is no garbage. The edible portions are eaten and the rest is salvaged for use in the manufacture of medicines, arts and crafts, and for fertilizer. Scavengers manage to find a use or a market for everything. It is interesting to note that it is illegal to poison rats in China, because rats are a source of food and the dead rats are certain to be eaten, if they are found.

(*The Sanitarian No.* 1, *Vol.* 12)

DDT IN FIGHTING PLAGUE

Nine members of the WHO international malaria-control team stationed in Malnad (Mysore), including the leader, Mr. Paul Bierstein and two women public health nurses, have moved to the nearby town of Shimoga to help combat an outbreak of plague there, announces the WHO Regional Office in New Delhi. Although plague is more or less constantly present among the 60,000 population of Shimoga, the occurrence recently of a persistent outbreak led the Deputy Commissioner, the District Health Officer and the President of Shimoga Municipal Council to decide at the end of last month to accept the offer of the WHO team's services.

The team had fortunately completed the bulk of its malaria control operations for the season, and was able immediately to begin work in the plague-infested sections of Shimoga town. It is using a technique which has proved efficacious both against plague in parts of India and against murine typhus in the U.S.A. This consists in residual DDT spraying modified to act specifically against the disease-carrying rat flea. One experimental spraying carried out by this method last month in Sagar (Malnad) is reported to have given satisfactory results in rat-flea control. The WHO team brought initial supplies of DDT with it to Shimoga.

"The plague-control demonstration work", writes team-leader Bierstein, "has been greeted with considerable enthusiasm by the population of Shimoga. The Municipal Council is providing local personnel, some equipment and supplies, motor-truck as well as voting Rs. 10,000 for the purchase of DDT."

(*WHO Regional Office for S. E. Asia*)

WHAT CONSTITUTES MUNICIPAL REFUSE?

(*Amer. City*, 62, 102-3, *June* 1947)

This article summarizes reports from 27 cities regarding their garbage collection practices. The reports indicate a wide variation in such practices. Theoretically, all agree that "collectible refuse can be divided into organic and inorganic classifications—garbage and refuse." Rubbish is subdivided into two categories—combustible and non-combustible. Some cities collect all refuse in one collection. Some collect the garbage and refuse separately. Still others, where incineration is practised, collect the combustible refuse separately from the non-combustible. The article concludes that every city should work out a system of collecting refuse best suited to its own needs and should not attempt to copy any other city's method.

—*H. V. PEDERSEN.*

(*P. H. Engg. Abstr.*)

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