

People's health

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PEOPLES HEALTH



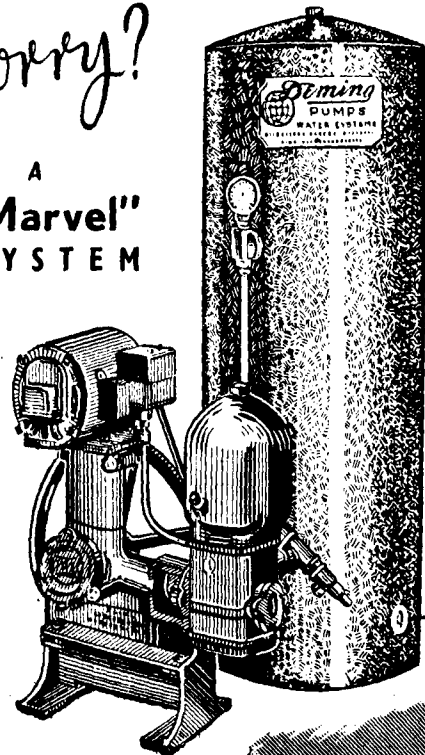
EDITOR
A. V. RAMAN
VOL. III - NO. II



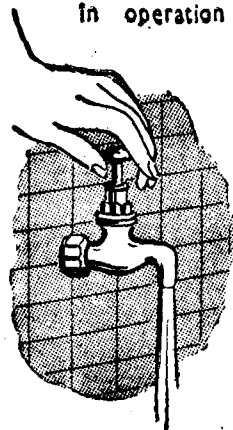
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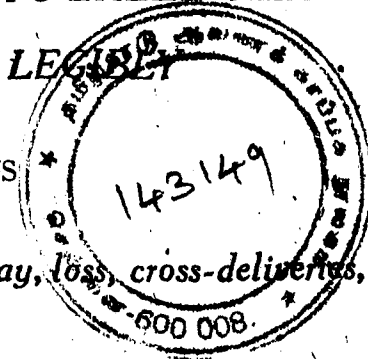
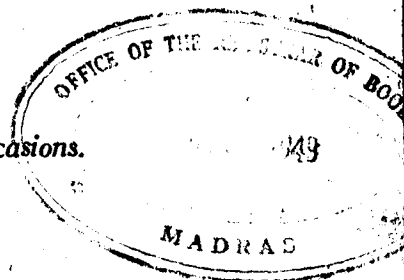
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TO OUR READERS

Our readers are, doubtless, aware of the fact that *People's Health* is being published at considerable sacrifice of time and labour and above all money. It is primarily a propaganda magazine to educate the lay public and the experts alike on all matters pertaining to the health of the people. As C. R. put it in his message to *People's Health* it is an endeavour on the part of a crusader-spirited ex-permanent servant to help democracy in one of its important functions. *People's Health* is not a commercial venture.

The Publishers appeal for assistance and co-operation of one and all. We invite suggestions from our readers to make the magazine more useful.

The annual subscription is only Rs. 12, commencing from October 1949 to September 1950.

ROYAPETTA,
Madras, 14.

MANAGER,
People's Health.

PEOPLE'S HEALTH

A Pioneer in the Field of Public Health

Vol. III

AUGUST, 1949

No. 11

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ANNOUNCEMENT

VOL. IV OF 'PEOPLE'S HEALTH' COMMENCES
FROM OCTOBER, 1949.

- * Arrangements have been made to publish a special series of articles on *Sanitation of our Rural Areas*.
- * These articles will be written in simple, straightforward language, by a high-ranking specialist.
- * They will be of special value to our Panchayats and the workers engaged in Rural Reconstruction.
- * Additional features of special interest to our readers will also be incorporated.

Please note that 'People's Health' is not a commercial venture. It is primarily a propaganda magazine to educate the people on all aspects of the health of the people.

Annual subscription is only Rs. 12, payable at Madras.

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THE MANAGER

"PEOPLE'S HEALTH"

Madras-14



VOL. III No. 11

AUGUST, 1949

ISSUED MONTHLY

EDITORIAL . . .

*"We have left undone those things which we ought to have done ;
And we have done those things which we ought not to have done ;
And there is no health in us."*

(The Book of Common Prayer).

INDEPENDENCE DAY

On our attaining independence two years ago, our great leaders, in their zeal to serve Independent India, roused great expectations among the people. Independent India's Prime Minister, Pandit Nehru, in his usual passionate tone of transparent honesty and sincerity told the country that there would be no complete freedom so long as there is starvation, hunger, lack of clothing, lack of the necessities of life and lack of opportunities for growth for a single human being, man, woman or child, in this country. That selfless patriot, Babu Rajendra Prasad, exhorted the peasants to grow more food, the workers to produce more goods, and our industrialists to use their intelligence, tact and resourcefulness for

the common good. He assured to all, that Independent India would ensure conditions of a decent, healthy life and opportunities for self-improvement and self-realisation. Thus, great expectations were roused in the minds of the masses. But the two years' experience has belied all expectations. As Dr. Johnson has put it :

"It may be proper for all to remember that they ought not to rouse expectations, which do not lie in their power to satisfy ; and that it is more pleasant to see smoke brightening into flame than flames sinking into smoke."

The people have found before their very eyes that the flames of high expectations roused in them, have sunk into

smoke. So much so, it is reasonable to expect but little enthusiasm in the masses for celebrating the second anniversary of our Independence. It looks as though the High Command of the Congress fully realised the realities of the situation and resolved wisely to celebrate the second anniversary of India's Independence in a quiet, solemn way. If one compares the maddening enthusiasm and joy, with which the country celebrated the 15th August 1947 with the manner in which it was observed on 15th August 1949, one would be struck by the tremendous difference. Why? It is because the *primary necessities of life* have not been found for the masses—not even *protected* water-supply has been provided to the people! The environment in which our people live spells disease and death. The *popular* Ministries in our Independent India, follow the footsteps of their foreign predecessors, by leaving the root-causes of ill-health alone and proposing to increase facilities for treatment of diseases.

Lord Wavell, while declaring open the Hallett Hospital, Cawnpore, on the 16th December 1944, stated in the course of his address:—

“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.”

By thinking of upgrading of hospitals, building new ones, modernising old ones, opening additional colleges for training medical men, providing facilities for importing more and more drugs or for manufacturing them locally, our popular ministries are doing a disservice to the masses.

What the masses require is an immediate improvement in their living conditions. This is not impossible of achievement, for, as our Prime Minister has put it, that finance should be found for the war against dirt, disease and death in an all-out effort to fight it out, in the same manner in which money is found to win wars. Our popular Ministries of Health, who claim to carry on the administration in the name of Mahatma Gandhi, keeping the ideals he set before us in their mind's eyes, are resorting to remedies which Mahatma Gandhi himself has condemned in the strongest terms. For instance, instead of improving the housing conditions of our people, the Minister of Health, Government of India, herself a *Paramananda Sishyai* of Mahatma Gandhi, has introduced into this country, what is known as BCG vaccination; if people have lost confidence in our leaders, is it a matter to wonder? Therefore so long as our popular ministries do not have a sense of values and refuse to put first things first, they are encouraging the forces, which are trying to upset the administration.

HOSPITAL OR DEATH TRAP?

Man would contend two and two did not make four, if his interests were affected by this position. This is particularly true in the case of our medical men. They do not, as a rule, believe in revealing the true facts of the case to the public. Even granting the facts come to light somehow, they always wriggle out of a nasty corner by successfully contending that two and two did not make four by adopting jargons peculiar to the profession.

The Government of Madras in their usual clever way did the honour to Kasturba Gandhi, by naming after her, the old medical institution in Triplicane (Madras) called the Government Caste and Gosha Hospital for Women and Children. Kasturba stood for what is best in Indian womanhood. Whatever might have been the conditions of this medical institution before it was rebaptised, the authorities owe a public duty to see that the institution is so conducted as to be worthy of the new name given to it. What are the conditions actually obtaining here?

THE SCARE

So early as 11th July 1949, it is reported that two cases of cholera were admitted in the hospital. It should be remembered in this connection that the hospital is located in an

area, where cholera cases had been occurring for some time. It is all the more the reason why the authorities should have taken special care to have a temporary quarantine ward opened to ensure that cases of cholera and such other epidemics did not get admission into the main hospital. What actually happened, has not been revealed to the public. In any case, the fact remains that a kind of scare was prevalent in the area, that the hospital had become a 'cholera hospital'. Publicity of correct and authoritative information in such circumstances, would have avoided any room for panic among the people. It would have also avoided scare-mongering. The Government owe a duty to the public to keep them informed of the conditions obtaining in the hospital more particularly, when cases of cholera are reported to have spread throughout the hospital causing a scare! We take it, that the medical authority in charge of the hospital should have submitted a report to the Surgeon-General informing him of the facts of the case and a report should have been sent to him from day to day, as to the measures taken to check the spread of the epidemic in the hospital. We ask whether such reports were sent and if so, what action has been taken and why the public are not kept informed by the authorities of the precise conditions obtaining in the hospital.

NO DISINFECTOR !

We have definite information that the bedding of the patients are not disinfected, for the simple reason that there is no disinfectant in the hospital ! So much so, a patient—a pregnant woman with high blood pressure, who got herself admitted in an evening got out of the hospital the next morning saying that the conditions there were so unsatisfactory that she was afraid of contracting cholera.

NO LAUNDRY !

Fancy, a hospital for women and children has not been provided with a laundry ! The manner in which the linen are being washed here should be a disgrace to any medical institution and more particularly to a hospital for women and children. If the head of the department has the mind to maintain the efficiency of the hospital entrusted to his care, he should have taken special care to secure a laundry without reporting to Government that the machinery is not available in the country and such other stories. Had he taken the trouble to enquire, he would have known that several hundreds of laundry machinery were available and are perhaps, still available, with the Director-General of Disposals of War Materials.

In one of his rides to New Delhi, he could have even personally contacted the concerned authorities.

It is no good Government coming forward with the explanation that laundry machinery is not available at all in the country. Such a cock and bull story cannot be swallowed by the public.

NO STERILISER !

About four months back, it is said, that the steriliser of this hospital went out of gear. The institution has been going on since then, getting the dressings sterilised in the General Hospital and brought here in motor lorries or vans. In this connection, the public may be reminded of the fact that even in the General Hospital, notwithstanding the elaborate and expensive apparatus provided for efficient sterilisation, several cases of tetanus had occurred sometime back and many patients died as a result of the infection. The medical profession has this advantage over all other professions in that it can always find a way of escaping the responsibility for negligence, even of criminal negligence. If the state hospitals cannot be run efficiently even in respect of fundamentals, better they are closed down and the patients left to die without the interference of the doctor to help them to meet their end.

CALL IT BY THE OLD NAME

We would suggest to the Ministry that without bringing the good name of Kasturba Gandhi to ridicule and contempt, they should restore the

original name of Government Caste and Gosha Hospital. If the Government wish to retain the new name given to this medical institution, they should take special care to see that it is maintained in a manner worthy of the great name given to it.

HOSPITAL SANITATION

On the importance of environmental sanitation, the Bhore Committee laid great emphasis. They stressed its importance in respect of the living conditions of man. So far as medical institutions are concerned, needless to say, that the environmental sanitation is more important than the treatment given to the patients in the hospital. Taking the Kasturba Hospital now under consideration, the underground reservoirs do not appear to have been either constructed or maintained in a manner which will ensure the safety of the water-supply. The overhead tanks do not appear to have been cleaned at all ; at any rate, there is no indication to show when it was last cleaned. Although the water drawn from the Corporation mains may be considered safe, the water stored in such reservoirs would be exposed to serious contamination. Why not full-time sanitarians be employed to look after the environmental sanitation of our hospitals ? An eminent medical authority has stated that environmental sanitation is one which can never be at

a stand still ; every moment a vigilant eye should be kept on it.

If public organisations like the Women's Indian Association interest themselves in the conditions of the hospitals for women and children and draw the attention of the authorities to the defects seen by them, they would be rendering a very useful service. The Government should appoint a committee of non-official visitors to these institutions, if they have not already done so.

**BCG—CAMPAIGN IN INDIA
PAUSE AND PONDER**

Elsewhere in this issue, we publish a closely reasoned article by Elizabeth P. TenBroeck on the BCG campaign in India. This article is so worded in non-technical language that it ought to appeal to commonsense and make the Ministries of Health pause and ponder over the ill-advised innovation in this country. If the Ministries of Health claim to represent the people, they ought to take note of the unpopularity of the measure. We have already exposed the hollowness of the claim that BCG vaccination is but voluntary. Pressure is brought to bear insidiously on educational authorities and boys and girls in our schools and colleges to succumb to official persuasions. This is hardly what one would expect in an Independent India, which is supposed to be governed on democratic principles.

WHAT OTHER MEASURES?

We also publish an extract from the *Lancet* which gives a succinct summary of the attitude of the Ministry of Health, England. Here, again, our Ministers of Health would do well to introspect whether they have been properly advised by our so-called BCG-experts, both indigenous and imported.

BCG propagandists of all grades have been repeatedly telling the public that BCG is but one of the measures taken to put down tuberculosis and that other measures which are equally important would also be undertaken. May we enquire at this stage what other measures have been taken to fight the scourge? We may pointedly enquire whether anything has been done in the matter of housing and in improving the environmental sanitation on which the Bhore Committee has laid special stress.

TREE-PLANTING CAMPAIGN

Coincidental with our third Independence Day celebrations, a campaign for tree planting was inaugurated in the Provinces under directions from the Centre. Those who sat in authority on that day went about planting trees, here and there faithfully, if unfeelingly. An organised tree planting campaign can do a good deal to help us; but likewise uncoordinated, sporadic efforts can also do incalculable harm. How exactly to conduct such 'planting for prosperity'

was discussed in some scientific detail by Mr. M. S. Sivaraman in November 46 issue of 'People's Health'. The constructive suggestions put forward in that article will come in handy, now that the governments have realised the potentiality of such planting campaigns.

An official in Madras exhorted people to rear more and more kitchen gardens. Curiously enough, the same official asked the people in a different context, not to use tap water for bathing! How he expected people to rear kitchen gardens without water, beats us completely. Being the victims of such glib, contradictory and flippant remarks, we are in no position to appreciate the humour of the situation.

UTILISE CATCHMENT AREAS OF WATER WORKS

We would suggest to those in charge of the tree planting campaign, to utilise the many catchment areas of our water-works for planting not only quick growing firewood trees, but also fruit-yielding trees. Afforestation of catchment areas will prove to be extremely useful. This suggestion is made in the hope that it will not fall on stone-deaf though ministerial ears. Possibly, the only sane statement made during this well-intentioned but ill-conducted campaign, came from our Madras Governor, H. H. Bhavnagar. He wanted that these trees, planted so ceremoniously by high personages,

should be tended carefully, even after 15th August. Evidently, His Highness did not want the trees to attain the fate of the planters, who come and go like chorus girls in an opera!

THE EPIDEMIC OF CORRUPTION

The canker of corruption has now become a desperate disease. It has assumed the proportions of a raging epidemic. The infection does not discriminate between the high-placed and the low-paid subordinates. As such, it requires desperate remedies. If the Governments, Central and Provincial, in Independent India, are really serious and honest enough to put down this raging epidemic of corruption, we respectfully ask, why is it that they have not as yet, adopted any radical remedy. For instance, why not confiscate the properties, *acquired and inherited*, by a person who has been proved in any specific case to be guilty of corruption to the satisfaction of an independent judicial authority. So long as Governments do not take such drastic measures, it will be assumed by the people, that they are not keen to put down corruption and dishonesty in our administrations.

Charges of corruption are in the very nature of things difficult to prove to the satisfaction of a judicial authority. When C. R. was the Premier of Madras (1937-39) he notified that if any officer

had the reputation of being corrupt and if half a dozen respectable persons came forward with a statement to that effect, it would be presumed that the person concerned was corrupt and would be dealt with as such. This notification had some salutary effect. What is the good of dismissing a peon here, a clerk there, a police constable or other subordinate elsewhere, leaving alone the top-men who revel in absolute corruption, not excluding the Ministers of State?

"Most base is he who 'neath the shade,

Of Freedom's ensign plies Corruption's trade."

—T. MOORE.

It is nauseating, that people who pretend to come forward to render public service, should practise corruption with impunity. It is, perhaps, more disgusting to see men, who profess to do *social service* by tending to the sufferings of the sick, should practise corruption and delude themselves in the belief that taking the so called *fees* is legal and legitimate, even for treating cases in state hospitals.

We have frequently drawn attention to the corrupt practices which have been long in vogue in government medical institutions. We have suggested methods of remedying this evil. No one, so far, has questioned the reasonableness of the suggestions made; and

yet, no action, whatever has been taken in this respect. Why? It is not a difficult matter for the Government to put down corruption with a firm hand. But is there a will to put it down?

ENEMIES OF INDEPENDENT INDIA

When our country is faced with gigantic problems and when our great patriots at the helm of affairs are trying their level best to solve them and to restore the country to normal conditions of life, it is most unfortunate that certain misguided groups of our countrymen should incite the ignorant people to add to the troubles of the administration by resorting to strikes. In the very first issue of 'People's Health', No. 1, Vol. I, we published an article on the strike fever and we had since then been appealing to our countrymen not to indulge in strikes when the country has to produce more and more. Whatever be the grievances of the workers, they should not resort to laying down tools. They should by all means in their power, get the difference between the employer and the employee composed by amicable settlement. It would be to their mutual advantage.

We have now been compelled to revert to this subject, as for a second time in a great city like Bombay, the conservancy staff went on strike. They seem to have been unmindful of

the consequences of their action. They exposed the city to serious epidemics, which would break out under insanitary surroundings. The public can never have any sympathy for such men. We have been pleading that the living conditions of the people should be improved; but if the conservancy staff go on strike, the condition would be deteriorated to such an extent that epidemics would sweep the city. What we are driving at is that the men engaged in such essential service should be brought under military discipline and their grievances, if any, should be settled without resorting to strikes.

We may in this context suggest to our administrations that the enemies of India are at the moment exploiting the conditions in which our people live, to gain their own end, namely to break the society. We refuse to believe that our masses have any sympathy with the aims of those who instigate them to commit such unsocial activities. The best way of winning them over is to improve the living conditions of our masses. This would also help them to live up to the ideals set before the country by Mahatma Gandhi. People should not be allowed to wallow in filth, and yet be expected to practise lofty ideals. We earnestly appeal to our administrations to give this branch of public service the highest priority.

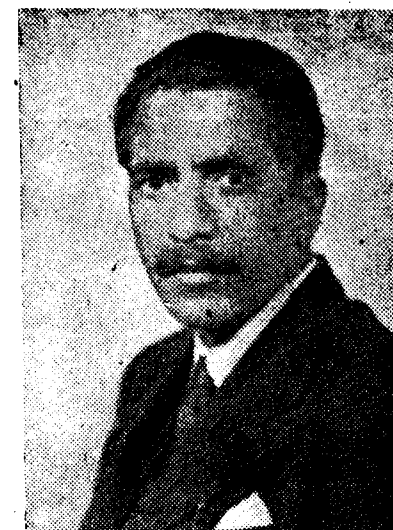
ORGANISATION OF A HEALTH SERVICE IN INDUSTRY

2. MODERN TRENDS IN INDUSTRIAL HYGIENE, MEDICINE AND INDUSTRIAL HEALTH PRACTICE

by

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INTRODUCTION

Our knowledge of recognition, prevention and cure of the occupational diseases has undergone a great change during the last 50 years. The various aspects of industrial occupations and their influence on health, are out of necessity, no more now associated with strictly medical problems, but economics and sociology are inextricably bound up with industrial health problems. The subject of industrial health has become a common meeting place for many problems of biology, and the environment, both physical and mental, is at least as important as the constitutional make up of the individual worker. In our present day concept of occupational diseases we are not confined to the disease scheduled in the Workmen's Compensation Acts, but modern industrial medical practice draws its main inspiration from contemporary physiology and psychology.

The present day concept of industrial health practice centres round the most important and the fundamental need of industry—the employee. The occupational selection of the employees is important both to employers and workers. The industry as a whole is surveyed for the subject of industrial sickness and not the dangerous

trades only. There is great stress now on the effect of hours of work, rest pauses, meal intervals and wages on sickness incidence and absenteeism. In the same way the effect of ventilation, lighting, humidity and air conditioning on the efficiency and the output of the individual worker are problems of serious investigation.

Other subjects that are gaining great importance are industrial rehabilitation, vocational training, vocational guidance, job analysis. Industrial psychology is becoming an important branch of industrial medicine and its contribution to the field of industrial fatigue and the neuroses is being given proper recognition.

Just as it is the aim of public health work to include not only the physical but the whole health of man, so does industrial health aim after looking at the whole relation of man to his work, his supervisors and the social group with whom he works and his physical and mental health. The present day machine age, with its mass production methods, division of labour, and increased demands on physical and mental capabilities of the worker has neglected the essential human factor in production and by laying stress on the qualities of the machine, has not only neglected the qualities

of men and women employed but used those qualities to satisfy the greed and callousness of the employers. The essential qualities of men are seen not when he is harnessed to the machine but when the machine is harnessed to the purpose which man wants to achieve. The object of pre-employment selection is to bring out those inherent and acquired qualities of the worker which would fit the job to the workman. The physiological principles of vocational guidance have 3 main objects:

- (1) To avoid injury to the health development or bodily capacity of the individual worker.
- (2) Affording protection to fellow workers.
- (3) Preventing the less scrupulous employer from employing physically unfit individuals, thereby protecting the more conscientious employer.

The object of vocational guidance is to assist industry in the suitable employment of those who are being recruited, and not to select the A-1 as is done in the army, where incidentally there is always a bigger percentage of rejects than in industry.

In such vocational guidance services the Juvenile Employment Bureaus or the School Medical Service play a very important part and it is for consideration of our labour legislator to provide for information on the health of the juvenile entrant in co-operation with education authorities, for the factory doctor or the certifying surgeons. While, this provision will take some time, we must for the present impress on the employer the need for inclusion of programmes for adult health during the whole period of a worker's industrial employment and especially employment in dangerous trades. Industry is making increasing use of psychological tests to assess such factors as competency, temperament, proficiency, interest, aptitude, mechanical ability from the point of view of vocational fitness of the entrant.

MEDICAL SUPERVISION OF WORKERS

Modern industry recognises the need for such service and has invested large sums to save those millions of man-days lost which every industrialist resents. Such a service has a wide scope as is seen from the following provisions made for the worker:—

- (1) First-aid treatment of occupational injuries.
- (2) Other treatment to enable the employee to remain at work.
- (3) Pre-employment examination.
- (4) Examination after return from illness.
- (5) Domiciliary visits to employees on long sickness absence.
- (6) Periodic examination of certain workers engaged in dangerous trades.
- (7) Examination of employees likely to be transferred to dangerous trades.
- (8) First-aid training.
- (9) Maintenance of works surgery, ambulance room, first-aid boxes.
- (10) Other ancillary services, e.g., dental, ophthalmic.
- (11) Investigations into problems affecting:—
 - (a) hazardous operations or processes,
 - (b) Lighting, heating, ventilation, sanitation and other aspects of industrial hygiene.
 - (c) Effect on health of new processes and by-products.
 - (d) Dietetics and sociological conditions of the employees.
- (12) General public health measures.
- (13) Consultant service to employees.
- (14) Recommendations to Works Committees on health problems and incidence of occupational disabilities.
- (15) Maintenance of sickness absence records.
- (16) Research and investigation on products and processes in the Works from the point of view of dangerous exposure of workers.

INDUSTRIAL SICKNESS

Another fact which has received great recognition is the association of industrial sickness with industrial structure. For many years the Registrar-General for England and Wales has published series of reports on Occupational Mortality. In the Decennial Supplement (England and Wales) 1921, Part II for the first time were distinguished occupations on purely occupational lines. The effect of this was to accentuate contrast between mortalities of the occupations concerned. These studies have shown close relationship between morbidity and economic status, while in addition they bring to light specific occupational hazards that end fatally.

In the estimation of industrial morbidity the data that is most important is—

- (1) Sickness and its relation to both environment and occupation.
 - (2) The age distribution of the population at risk.
 - (3) Occupational groups with the most unfavourable experience of mortality and morbidity rates.
- Factors which have important bearing on the problem of industrial sickness are so varied and so intricate that till such time a lot of spade work has been done, it will not be possible to appreciate the seriousness of the situation that confronts the industrial physician in this country. The multiplicity of factors can be seen from the following which are in operation in all industries.

- A. (1) Poor initial selection.
- (2) Cramped working conditions.
- (3) Inadequate ventilation and bad exposure while at work.

All such factors need general improvement in industrial buildings.

- B. (1) Long hours of work.
- (2) Night-shifts.
- (3) Long travelling time on journeys night and morning (comparable to over-time).

- (4) Bad town-planning in relation to housing of the worker and his place of work.
- (5) Recruitment of labour from inaccessible areas.

(6) Bad transport facilities for the workman. These factors need rigid control of over-time to lessen fatigue.

- C. (1) Inadequate wages.
- (2) Increase in cost of living.
- (3) Large size of family.
- (4) Persons of poor physique tending to gravitate to a lower economic level owing to impaired earning power.
- (5) Indebtedness.

These factors need improvement in wages and careful adjustment of the expenditure.

INDUSTRIAL ACCIDENTS

On the question of accidents, it is not too much to emphasise the importance of the "human element" as a major contributory factor. In the prevention of industrial accidents certain physiological and psychological criteria have to be observed to lessen the incidence of industrial accidents. It is a recognised fact that environment plays an important part in the underlying differences in human behaviour in spheres of mass illness. The same is true in the case of accidents also.

A worker acquires his occupational capacity by education which is perfected by practice but behind this capability lies an innate combination of aptitudes. These can be evaluated by psycho-technical tests, where the cause of accidents is due to physiological inaptitudes. These can be eliminated by proper pre-placement examinations and selection of the worker.

The frequency with which accidents occur in industry in India are quite numerous and much greater than is usually supposed. Also what is generally not realised is the extent of the unhappiness, and the effect on the health of the industrial population.

It is the aim of industrial medicine to see that adequate, honest, prompt and efficient treatment is given to the injured workman, that measures are adopted to prevent industrial accidents and that every possible legitimate effort is made to restore the disabled, not only to the maximum earning power but to a place and at a job in which he can take a proper pride.

INDUSTRIAL FATIGUE

The scope of industrial medicine has encroached on the somatopsychosocial orientation of human biology and the study of a worker's efficiency is now-a-days interpreted in terms of his physiology, psychology and his social set up.

The human aspect of industrial fatigue is closely bound up with Scientific Management; problems of selection; physical environmental factors like illumination, noise, temperature, humidity and the rate of air movement; problems of the maintenance of the health of the worker through nutrition and canteen meals; his morale; the adjustment of his personal or family needs. In fact the subject of industrial fatigue is studied in a multivariable context to devise methods for improving industrial efficiency.

INDUSTRIAL ATMOSPHERIC CONDITIONS

The influence of atmospheric conditions on individual and group health is greatly stressed. Highly developed technical methods are used for estimating human ventilation requirements, general industrial ventilation, industrial process ventilation and use is made of most up-to-date air-cleaning methods and equipment and advice is sought for design of ducts for exhaust systems.

Great stress is also laid on the importance of day light lighting, and the relation of different amounts of illumination to working capacity in fine processes, while the question of artificial lighting is handled by experienced illuminating

engineers preliminary to the design of industrial lighting installations.

Air conditioning includes the control of temperature humidity, radiation, air movements and cleanliness or purity of the air, and this is necessary from the point of view of comfort and efficiency of the worker. The air-conditioning engineer solves the problem of thermal comfort not only from the physiological but also from the psychological aspect as it has often been noted that with ideal combinations of temperature, humidity and air motion there are people who still complain of monotony.

The factor of sound conditioning has also merited great attention. Its control is interlocked with other environmental controls by the team work of sound, light, heat, sanitary and structural engineer. Industrial noise is productive of a large amount of mental inefficiency, nervousness, exhaustion, indigestion, fatigue, temporary and permanent deafness.

SANITARY CONDITIONING

The sanitary engineer is beginning to enter large-scale industry in a professional capacity. The growing problems of food, water and milk control, sewage and waste disposal deserve the attention of a full time sanitary engineer.

INDUSTRIAL TOXIC MATERIALS

The physiology of toxic vapours and gases, dusts and fumes, their absorption, distribution and elimination; their maximum allowable concentration are all studied in great detail from the standpoint of human welfare. Analytical methods available to the industrial hygienist have been standardised and simplified and industrial chemists and physicists are trained by the hundreds. Portable rapidly indicating devices like the gas interferometer, portable Orsat, and Ultraviolet absorption devices have been evolved for rapid and easy field work. For the estimation of dusts, fumes and smokes, various instruments

called Impingers, Konimeters and Electrostatic filtration, thermal precipitation and Sedimentation methods have been evolved for the measurement of dusts and fumes.

INDUSTRIAL MEDICINE

Industrial medicine does not any more confine itself to occupational diseases as Scheduled under the Workmen's Compensation Acts. Its field of study has grown extensively and physiology and psychology have been included to study numerous problems of industrial illness.

A great stress is laid on the study of

(a) *Industrial toxicology* which differs from general toxicology in the mode of entrance of poisons (inhalation of vapours, fumes and dust is most important, then comes absorption through skin), the character of poisoning industrial poisoning is mostly chronic and severe), the multiplicity of poisons which produce a complex and confusing picture and lastly that there are factors in industry which distinctly favour the action of toxic compounds like heat, humidity heavy work, long hours, poor food, youth and immaturity of workers, greater susceptibility of women to certain poisons (lead, benzene), etc. With the increase in the number of chemicals that industry employs this subject is receiving the maximum attention of chemists and pharmacologists.

(b) *Occupational Dermatoses*.—This is another subject that has drawn great attention and study. It includes not only inflammations of the skin but stigmata, traumatic injuries, chemical and thermal burns, ulcerations and proliferations by contact with physical and mechanical forces as well as with chemical substances.

The annual loss in time from work plus cost of medical care and compensation must be a large sum in this country.

(c) *Industrial Combustible gases and vapours*.—Some major hazards in present industrial operations are fires and explosions from the presence

of combustible gases and vapours. The need for a greater appreciation of these hazards and the provision of means of mitigating and preventing them is receiving greater attention.

(d) *Industrial Combustible dusts*.—Fire hazards in handling dusts of combustible materials like wood, flour, sugar, cotton, starch, pulverised coal, bark, coffee, pitch and resin, which have a high carbonaceous content occur in a variety of establishments and cause great loss to human life and machinery. The problem of prevention of dust explosions is of paramount importance in industrial plants and considerable effort is devoted to its solution.

(e) *Industrial dusts—Relation to pneumoconioses*.—Silicosis, pneumoconiosis and dust suppression in mines represent a world-wide problem. The coal miners alone do not represent the full extent of the problem. Silicosis and pneumoconiosis occur amongst metalliferous miners; in mining, tin, lead and ganister; quarrying sand stone, granite and slate, sandblasting; handling china-clay in pottery crushing flints and quartz manufacture of silica bricks, glass manufacture, etc.

A mass attack on the medical and other aspects of the problem is being instituted by governmental and other interests. In the sphere of medical research considerable progress has been made in the countries in the West. In India the subject of Silicosis has been tackled only in the Kolar Gold Fields under the Mysore Silicosis Rules where since their introduction in 1940, 2,834 cases have been notified and compensation to the extent of Rs. 14,05,623 has been paid. Our coal mining industry has not as yet thought of this problem.

(f) *Occupational Diseases*.—A vast amount of literature now exists in the western countries on the incidence, prevention and treatment of industrial maladies and diseases in relation to occupation. Emphasis is laid on the mechanism by which poisoning occurs and the means for

prevention are studied. Stress is also laid on the descriptions of working conditions and the industrial physician is taking great interest in the numerous processes used in industry in order to evaluate the hazards in each process. Stress is also laid on the need for better education in Industrial Medicine as part of the Curriculum in medical schools. The study of the *history of industrial medicine* is another subject in which great interest is shown by research scholars. The subject of *Labour legislation* for the prevention of accidents and industrial illness by adequate protection as it exists in various industrial countries is studied with great avidity. The *Regulation of dangerous trades* by means of special rules is insisted and in the *Workmen's Compensation Acts* compensable occupational diseases are included. Obligation to notify scheduled cases of industrial poisoning is placed on the medical practitioner and the employer under the Factories Act.

(g) The question of *industrial sickness statistics* particularly in connection with Workmen's Compensation Legislation has received greater attention in certain countries. The standard occupational mortality tables for England and Wales may be referred to as the most trustworthy sources of occupational mortality conditions. The problem in this country has not been tackled at all. If health injurious conditions are to be removed, they must, therefore be dealt with in a highly specialised manner by industrial health statisticians, as best illustrated by some of the extremely valuable reports on particular occupations, which have been forthcoming from the British Factory Inspection Department. The field which requires thorough investigation is enormous. The statistics of occupational diseases like medical statistics in general has to be built up and quickly so in this country in the greater interest of the large labour force that is inadequately protected.

INDUSTRIAL WELFARE PROVISIONS

Industrial welfare is directed at maintaining the moral and physical health of the human factor in production in order to assure conditions of economic health in industry. Activity in the welfare field is extremely extensive and is ensured from the moment the worker enters into industry, lasts throughout his activity there and even throughout his hours of spare time and rest.

In this connection medical supervision plays a role of primary importance. The choice of the best type of working clothes, protective glasses and respiratory apparatus is closely connected with the type of operation for which it is intended. Canteens are furnished and decorated in a simple but tasteful manner. A worker's committee is formed to participate in the administration of the canteen. In the field of health supervision of the workers, first-aid posts in charge of industrially trained nurses are established or services of a trained works medical officer are obtained. Rest rooms are provided adjoining sickrooms, especially useful for female workers.

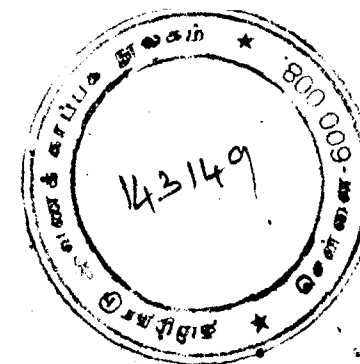
Where working mothers are employed, rooms for nursing and creches are attached to factories staffed by suitably trained nurses or welfare workers. Other welfare activities include provision for housing of workers, transport for workers, visits to sick workers in their homes, outdoor sports worker's gardens, consumer's co-operative societies. All these provisions aim at improving the workers' domestic economy and family life and effective propaganda is made with a view to educating public opinion in the country in favour of the provision of these facilities to the workers.

CONCLUSION

An attempt has been made in this and a previous article to indicate the possibilities to a public health or industrial health administrator engaged in the organisation of an industrial health service.

THE BCG VACCINATION CAMPAIGN IN INDIA

Elizabeth P. TenBroeck

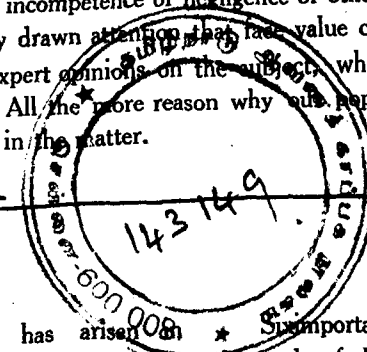


In the light of the facts set out so ably by the author of this article, will the so-called *Ministries of Health* in India give up what authoritative experts cited in the article, have considered to be a mass-murder campaign?

Our Health Ministries are pushing forward this ill-advised campaign in the name of immunizing our nation against tuberculosis! The author has brought to prominence, how difficult it is to prove the guilt against those who practise BCG vaccination even in countries, where medical and scientific men think independently. In our country, where the trade union mentality among medical men is so strong, it is extremely difficult to collect and tender evidence to the satisfaction of a court of law even in cases of murders committed either in ignorance or through incompetence or negligence or otherwise.

We have already drawn attention to the fact value cannot be given to the officially sponsored expert opinions on the subject, which were broadcast for public information. All the more reason why our popular Ministers have a special responsibility in the matter.

—Ed., P.H.



A wide-spread controversy has arisen in India over the launching in February, 1949, of the BCG vaccination campaign by the Government, led and advised by a small group of foreign and Indian doctors. The Indian Press has been publishing since then letters, protests, challenges and explanations on the subject for several months with many quotations, statistics and opinions as well as many scientific and historical data. This article will assemble some of this material and try to give a general view of the situation.

Important practical points emerge from the study of the information available on BCG. These will be taken up in some detail from the common-sense point of view. They are:—

1. The value and safety of BCG vaccination is a controversial matter.
2. Several disasters have been caused by its use.
3. In view of these facts: Is its use on a mass scale in India wise or even justifiable?
4. The deplorable manner of launching the BCG campaign in India.

5. No modifications of the campaign followed protests and warnings.

6. Is BCG what India needs?

1. BCG IS A CONTROVERSIAL MATTER

The BCG vaccination process has been experimented with for about thirty years. Considerable controversial literature on the subject is available. The opinions and evaluations of BCG by scientists, physicians and Health Officials wherever it has been used, are sharply divided. Where eminent authorities disagree the matter is indisputably controversial, and every care should be taken to present both sides so that people may accept or reject the measure with knowledge of its risks. To illustrate, quotations of recent date from authorities in several parts of the world follow:—

The National Tuberculosis Association, N. Y. (January, 1949) Vaccination with BCG must not be regarded as a substitute for approved public health measures, nor can vaccination of the general population be recommended at the present time except for carefully controlled investigative problems.

A conference of the Federal Public Health Services in the U.S.A. at the end of 1946 recommended that BCG be not made available commercially, but that further investigation and research be carried out amongst groups highly exposed to tuberculosis infection. The Red Indians of America were chosen for this experiment. Two years later a second Conference of the same organization held that many fundamental problems still remained concerning BCG and its technique. And it recommended only that further study and research be carried out. Also:—

Public Health Reports, U.S.A. (May, 1948). Therefore until all the problems of BCG vaccination as a tuberculosis control technique are solved and until we can be certain of the implications of the change of emphasis at this time, we have no right to relax our efforts in the application of measures which long experience has shown to be eminently practical and profitable.

To do so prematurely, might conceivably prove wasteful if not disastrous, for *when incompletely proved techniques are hastily adopted*, it frequently happens that those who cannot remember the past are condemned to repeat it. True progress lies not in that direction. (*Italics ours.*)

Somewhat in contrast with the above pronouncements of authoritative bodies in the U.S.A., is the opinion of Dr. Edgar Mayer, Tuberculosis Expert for the World Health Organization (WHO) South East Asia Region. In evaluating his statement it must be remembered that in the U.S.A., BCG has only been used in carefully controlled experiments and on a comparatively small scale.

(1) BCG is a perfectly harmless vaccination and cannot produce tuberculosis. (This is not the conclusion of many other experts.)

(2) It has been shown in America as in other countries that it markedly reduces the development of tuberculosis and tuberculosis mortality.

(3) It is regularly being employed today on a large scale in New York and in many other parts of the U.S.A. It is not being used in the U.S. on a still larger scale only because tuberculosis has been kept under control there by other methods introduced into the country even before the discovery of BCG vaccine. (Again, this is not the opinion of many others concerned.)

(4) Conclusions of the world tuberculosis experts at present are that in highly infected areas such as post-war Europe, India, China, etc., BCG vaccination should be used on a mass scale as one of the most potent agents against fresh tuberculosis infection in non-infected people. The urgency is greater because other measures necessary to the control of tuberculosis cannot be adequately introduced in a short time because of the limited resources.

In further contrast is the statement of Dr. J. B. McDougall of the Tuberculosis Section of the World Health Organization also:—

It is unlikely that the success which has attended BCG vaccination in many countries in Western Europe, can also be achieved at once in India, because in Western Europe, in particular, there have been other and equally important measures taken for the control of tuberculosis, and these measures have been complementary to BCG vaccination and have unquestionably added to the excellent results achieved. . . . It is, however, the view of most workers in this field

that adequate statistical evidence is well nigh impossible to obtain, since human beings vary in such factors as natural resistance, the degree to which they may develop acquired resistance, their environmental factors, and so on.

The implications of these two statements should provoke solemn thought in all who read them. Obviously this "mass scale" use of BCG in India is a gigantic experiment and a precarious one.

Dr. S. R. Rosenthal, Director of the Tuberculosis Prevention Clinic of Chicago Municipal Tuberculosis Sanatorium and U. S. Public Health Consultant in Tuberculosis Division holds that—

The vaccine is not yet a panacea. It is as effective as any other vaccine. The following principles of preventative medicine should be observed to obtain the best results. First diagnose the disease and locate it, then isolate it, then use vaccine as a secondary measure.

The Indian campaign is not aiming at 'best' results according to this!

Dr. M. Lavine of the New York City Board of Health Advisory Group on BCG Tests is reported as saying that "thus far, the work has shown BCG absolutely harmless and it does give some immunization." He is not the only expert authority admitting only "some" or "relative" efficiency for BCG at best.

Even the American authorities who express the opinion that BCG seems harmless (*N.B.—Under carefully controlled conditions*) are cautious and reserved in their statements regarding the efficacy and method of employment. And the fact stands that in the U.S.A. BCG is not permitted for general use.

In Canada it was stated by an authority in Quebec (March, 1948):—

Our work is still in the experimental stage and there are many aspects of the problem still to be investigated before a definite programme is established.

As for South American opinion: *The Review Tuberculosis d. Uruguay* is quoted as stating that a follow-up is absolutely necessary: "it is better not to vaccinate at all if the children

cannot be kept under observation Separation from a tuberculous environment without vaccination is better than vaccination without separation." And Dr. A. F. Isern, former Puerto Rican Commissioner of Health, said recently that it was the difficulty in diagnosing tuberculosis and the relatively slow progress of the disease which made experiment a long extended process. It was this, "Plus the U.S. doctors' normal demand for proof positive which has delayed the acceptance of BCG." What plan has the Government of India made for keeping the vaccinated under observation?

As in the U.S.A., England has not taken to BCG as a protective measure. The value of any mass immunization is not generally recognized there—even that, for smallpox having been abandoned—and it is considered that further research is required on the degree and duration of protection; and has been suggested that for this purpose *control trials* might be undertaken. This information is from the Proceedings of the Commonwealth and Empire Health Tuberculosis Conference (London, 1948).

Mr. Bevin, Minister of Health, has even restricted the scope of experiments with BCG in England. And Dr. G. S. Wilson, Director of Public Health Laboratory Service of the Medical Research Council, wrote (1949):—

. . . the published evidence leads me to the conclusion that, though a strong presumptive case may be made out for the value of BCG, it is not yet convincing enough to justify the whole-hearted acceptance of this agent as a means of preventing tuberculosis in Great Britain.

Another important source of information on BCG must now be considered. During and after the horrors of the most widely publicized—though by no means the only—disaster caused by the use of BCG, namely, that in Lubeck, Germany, there were many investigations made and facts unearthed which would not otherwise have been forced to light. The *bona fides* and

claims of Calmette as well as his BCG vaccination were questioned by laymen and foremost authorities. The *Cape Times* summarized the results of these investigations at the time (1931). Also the *British Medical Association Journal*, considered one of the most authoritative in the world, of the same year (November 7, 1931) stated :—

Professor Calmette has failed by his animal experiments to convince the bacteriologists, and by his human experiments to convince the statisticians. His logic is excellent, but his premises are unproved. Not until he or his workers can bring more convincing evidence is there likely to be any general movement to adopt his method in this country.

Calmette's figures and results were challenged by authorities in Germany, France, Hungary, Bulgaria, Spain, Russia, England and the U.S.A. To all objectors Calmette offered his statistics; but these were also contested and compared and found by many entirely unconvincing. For instance :—In France where one-third of a million children were claimed to have been vaccinated with BCG, the general mortality of infants rose during the succeeding two—three years! In India have we even the means of making an accurate check on the general mortality of children outside of the big cities? This could happen to us without the possibility of our becoming aware of it! In spite, however, of this and other disquieting disclosures, Calmette's BCG vaccine continued to be vigorously advertised in France and elsewhere.

A detailed report on the trial conducted after the Lubeck tragedy appeared in the *Lubecker General Anzeiger* in daily Supplements and these were translated by other papers. For this trial at least ten eminent men travelled to Lubeck investigated, and spoke against BCG. A number of eminent authorities affirmed quite voluntarily that "deaths were due solely to the vaccination . . . other cases were uncertain though very suspicious." (Compare this with Dr.

Benjamin's unqualified statement in his Pamphlet No. 1, pp. 5—6). Calmette bacilli taken from the lung cavities of the dead children were cultivated and established the fact beyond question that Calmette bacilli can suddenly again become virulent. On the strength of this revelation BCG vaccination was given up in Hungary where another disaster had occurred, of which more later.

Professor Much, who for twenty-eight years had been experimenting with tuberculosis, testified that "weakened tubercle bacilli can always become virulent again." And he was supported by many other authorities in this statement. (See the *Lancet*, December, 1931 and the *New York Times*, December, 1931.) In the face of this and what follows, Dr. P. V. Benjamin's remarks in his Pamphlet No. 1 and elsewhere are amazing; he writes :—

Petroff in America claimed that the BCG strain could be made virulent, and hence it was dangerous to use this vaccine. Then followed the Lubeck disaster in 1930 where many children who were vaccinated, developed tuberculosis. Petroff's claim has not been sustained by other investigators No one has been able to make it (BCG) virulent

Testimony is reported (*Hamburger Fremdenblatt*, January, 1932) to the effect that Professor Guerin himself had written to another Professor that "BCG must only be cultivated on a fluid medium if the danger of a return to virulence is to be avoided." Does Dr. Benjamin claim to know better than one of the original authors of the BCG vaccine, or is he only lamentably uninformed?

Deception and concealment were found to have been practised by doctors and Health authorities interested in supporting the BCG campaigns in Europe. (Has our Indian BCG campaign been free of these?) For instance: It came out in the Lubeck trial that the word "vaccination" was avoided, since at that time it would have kept parents from consenting to the operation.

Parents were told that children would be "fed" with the material, which was "quite harmless and followed by no disturbances of health." (Whether some children were fed and some vaccinated with BCG was a point never fully cleared even at the long trial!) Also, midwives were bribed to bring new-born babies for vaccination. According to Dr. Wittern, death certificates showed "quite different causes of death from those which later post-mortems proved."

Dr. Altstadt, one of the doctors convicted at the trial, is reported as having "falsely represented the Calmette process as being practically unopposed, saying nothing about the fact that the Health Department of the Reichstag itself had sent forth a warning in 1928 that it was not considered safe to employ it in Germany." (*The Abolitionist*, December, 1931). Is it wise for Indian doctors to ignore this and other warnings from disinterested sources?

Dr. Friedmann and others bore witness to the fact that intimidation existed in France where Calmette vaccination was brought to the point of being a political issue. And it was written by one French doctor that there were few who "had often employed BCG who could not establish the fact that it was followed by serious injuries. Most doctors, however, dared not publish these injuries on account of the influence of the Pasteur Institute."

Finally it was brought out that Calmette and Guerin, the originators of BCG (*Bacillus-Calmette-Guerin*) did not agree as to the medium on which it was safest to cultivate the bacillus. Calmette's book, translated by Kalbfleisch, and statements of Guerin being contradictory. This is a most important factor from the scientific and medical view-points!

After the tragedy in Lubeck, which brought four eminent doctors and one nurse to public trial for manslaughter, two of them being convicted, one German paper, the

Kolnische Zeitung observed after the verdict was given :—

. . . in this case practically everything was disputed and left in doubt, the layman who has followed the evidence in the Press will have viewed, not without wonderment, the deep division in scientific questions which was evident on many points in the experts' evidence.

In closing this fragmentary, largely quotational account of some of the results and findings forced to public notice by the four-month trial after the Lubeck disaster, we will quote translations from three German journals which summarized the Lubeck verdict and whose statements remain uncontested to this day :—

The Lubeck tragedy was clearly due to an unexpected return to virulence, but as the accused believed in 1929 that this was impossible he (Dr. Darbovan, the defender of Sister Schutze) did not see how they could be blamed. The first proof that BCG can split up into poisonous and non-poisonous forms was given by Petroff in 1927. But at that time nothing was thought of the demonstration of the then unknown American investigator, because the whole world was then convinced of the unchangeableness of BCG. They spoke merely of a spontaneous infection. (Professor) Deycke confirmed Petroff's conclusions by his own work. (Professors) Much, Uhlenhuth, Kraus, Hutyrá and many other eminent bacteriologists stand to-day on the same ground. That the two Professors failed to get the division, proves nothing The increase in virulence when the germs are grown on egg medium is also to-day agreed to. Professor Poll showed that the virulence of bacteria changes readily. In the Robert Koch Institute, for instance, the virulence of diphtheria bacilli and pneumococci has been restored. The virulence of tubercle bacilli is particularly alterable Why did some experts try so hard to maintain that no return of virulence had taken place at Lubeck? Kolle said if this idea were not knocked in the head, the whole of German science would be destroyed

Hamburger Fremdenblatt and *Lubecker Anzeiger*, Jan., 1932

Dr. Wittern, the advocate for the bereaved parents of Lubeck, held the same view. After it was claimed that the vaccine might have been tampered with he said :—

There was no question either of an exchange of germ or of contamination. Dr. Deycke was guilty of w

thought; his fault consisted in ignoring over 29 warning treatises to be found in medical literature. The carelessness of Dr. Alstadt and Dr. Deycke in introducing the Calmette method consisted of the fact that they reached the belief that BCG was a "fixed virus" without considering the opposition literature. The State was answerable for not explaining the matter properly to the parents, thus utilizing them as innocent material in trying the effects of the vaccine. "Anyone who uses the Calmette vaccine to-day" said Dr. Wittern "does so in danger of being accused of murder."

(*Deutsche Allgemeiner Zeitung and Hamburger Fremdenblatt*, January, 1932).

The Public Prosecutor in summing up the trial said: Whether BCG might become virulent could not be decided by a Court of Law, but only by medical science. But he added that "one physician expressing doubt on the harmlessness of a remedy must be heard as much as a hundred others believing in it." This advice should be taken to heart by the Tuberculosis Association of India.

In an article by Dr. Richard Koch, entitled: *Medical Truth* published in the *Frankfurter Zeitung*, (February, 1932) he concluded:—

It is not unlikely that the BCG, which in almost the whole world had led to no single undeniable catastrophe nevertheless in Lubeck did become virulent.

And even the Court in Lubeck did decide that the return to virulence of BCG was a fact, but it could not prove that it had happened at Lubeck for the reason above stated.

All this has been particularly stressed and quoted because it applies so pertinently to the present situation in India and because of the unqualified statements of Dr. P. V. Benjamin, Tuberculosis Adviser of the Government of India and Technical Adviser, Tuberculosis Association of India, in his published and widely circulated Pamphlet No. 1: *The Place of BCG Vaccination in India*. In this brochure he makes the unqualified, astounding assertions that: "No one has ever shown that the vaccine has done any appreciable harm; no one has been able to make it virulent . . . it is a safe

vaccination which does not affect adversely the health of the individual vaccinated." His Pamphlet is full of unsubstantiated generalizations and unsupported vague statements which go far to induce doubt and anxiety in the well-informed and thoughtful. Perhaps Dr. Benjamin also has not studied the "warning treatises" (now many more in number) referred to by Dr. Wittern?

2. SEVERAL DISASTERS ATTRIBUTED TO BCG IN EUROPE

Although the BCG Disaster in Lubeck received the widest publicity (probably due to the circumstances being beyond the control of the interested parties) even before that there were other tragedies in Europe attributed to it, beyond question, by many authorities. The following mention of these has been taken from European journals, principally the *Deutsche Allgemeiner Zeitung* (1931) and the *Lubecker General Anzeiger* (1931).

IN HUNGARY (1929): A statement from the Medical Officer, Professor Szalay of Budapest, affirming that Calmette bacilli can again become virulent, stopped its use in Hungary. Twelve children had died there and in the case of three, two eminent doctors and one eminent bacteriologist (Gergely, Gardt, and Surunyi) positively and voluntarily declared that the deaths were due to the BCG "vaccination" solely.

IN SPAIN (1929)

According to an official communication of the Spanish Society of Children's Doctors (August 1929), numerous deaths and severe illnesses followed BCG vaccination. An official investigation proved that in six months, of 757 children vaccinated, 333 became very ill and 164 died.

The use of BCG was therefore stopped in Madrid where it was being tried.

IN BULGARIA (1930): Dr. Sihivenski, of Sofia, stated that he had an exact list of the names of 75 children who had died after 257 had been inoculated with BCG in the town of Pernik. It came out later after investigation that out of

116 deaths only 7 were "officially" recorded. This illustrates further the confusion which attaches to the investigation of disasters caused by officially sponsored campaigns and when the reputations of prominent persons and institutions hang in the balance.

IN RUSSIA (1931)

. . . in Moscow, the harmfulness of the BCG vaccine has been proved by experiment on a large scale. Hence there is no longer any doubt that the Calmette germs become virulent under certain circumstances.

All this history is important because the BCG being used now in India is no different from that which was used then in Europe. This fact was stated from a public platform in Bombay in a lecture under the auspices of the Bombay Presidency Women's Council, by a member of one of the Teams from Denmark which are demonstrating BCG to Indian doctors and carrying on the campaign now. Without any historical background having been detailed in the lecture, this fact was put forward to "reassure" the ladies present! Perhaps the lecturer herself did not know that the *bona fides* and statistics, as well as the vaccine, of Calmette stand in need of confirmation, verification and proof. Have our Indian doctors and Health Officials read the statistics of Calmette as well as the serious questioning and criticism of them by prominent medical and scientific authorities of the West? If not, they had better repair the omission before proceeding with the present campaign to vaccinate the people of India with BCG.

3. IS IT WISE OR JUSTIFIABLE TO USE BCG FOR MASS VACCINATION IN INDIA?

From information available it is observed that except in Scandinavia BCG has not established a foothold in Europe. And in regard to Scandinavia it must be remembered that it is a land where there are almost no slums; where climate, standards of living, sanitation, general nutrition

and health of the people are almost the exact opposite of what prevails in India. But even from Scandinavian countries some disquieting reports are published.

It has been represented in India that the opinion in Scandinavia is unanimously in favour of BCG and that its efficacy has been proved beyond a doubt there. But the following declaration of Dr. H. Malmros, Physician-in-Charge, Central Hospital, Oerebre, Sweden, does not confirm this.

My material is certainly large, but the observation period is as yet too short to allow of any definite conclusions regarding the efficacy of BCG vaccination. Investigations from other areas in Scandinavia, however, point in the same direction.

In other places where BCG vaccination has been employed to a great extent, a definite impression has been made that it gives good protection against tuberculosis, although, on account of the absence of controls this cannot be regarded as proof.

From the *Nordisk Med.* (1946):—

Among more than 12,000 BCG vaccinated persons in Oslo, 38 persons contracted tuberculosis, 17 persons sickened within twelve weeks after the BCG, before the protective effect of the vaccine could be established, or owing to having been vaccinated in the anti-allergic period. In the other 21 cases the BCG vaccine failed to protect . . . In 14 cases tuberculosis was proved in sputa, stomach contents or in plural exudate; in all these cases the TB was of the human type.

It must be realized that all these persons were healthy and free from tuberculosis when vaccinated; they might never have contracted it at all! That there is danger in this vaccine is also shown in an account given by K. A. Jensen in *Acta Tuberk Scand.* (1946) on the behaviour of BCG at the State Serum Institute, Copenhagen. Jensen was responsible for producing the vaccine in Denmark from 1927 to 1941, and one of the two strains that were used during that time had to be abandoned because of its virulence.

On the question of immunity there has been definite diversity of opinion; it is recognized that the immunity conferred by BCG is *relative*. It does not therefore seem wise to accept the

reported *very good results* in Scandinavian countries as irrefutable or conclusive.

Likewise, in Scandinavia it is stated :—

The children chosen after the tuberculin tests are first segregated in quarantine wards for six or seven weeks before they are declared negative and that only after a second test.

(Contrast this with the procedure advised for India.) Where BCG is compulsory (only in Norway) its success is stated to be largely due to the fact that there primary infection does not occur until the age of eighteen to twenty. In India this is not the case; the conditions are totally different, segregation in quarantine is impossible, and primary infection occurs at a very early age.

Since BCG is used to produce artificially a primary infection with tuberculosis the value of using it on a large scale in such countries as India, where the people have a tendency to inherit or acquire primary infection in babyhood, is very dubious—to say the least—and could only be ascertained after long investigation of specialized cases.

Here we must inquire: On what statistical, scientific authority has it been declared by the World Health Organization's Sub-Committee on Tuberculin Testing and BCG Vaccination that for the mass-vaccination programme, isolation of vaccinated persons was not necessary, and that segregation of open cases, even though desirable for other reasons is considered not to be an essential measure for the mass BCG vaccination Programme.

In the face of grave evidence to the contrary we may fairly ask: Why not? Is it because obviously it would be an impossibility in India where they want to make a mass experiment? Or can some authentic and indisputable data be given to substantiate this pronouncement? If so, why has it not been given? We have found none such from any country or body of medical men so far.

British medical opinion (1949) is quoted as expressing that . . . in India, where conditions against the

growth of tuberculosis are not favourable, primary infection can be very dangerous and serious complications are common.

The critical point is, are the statistics on which the value of BCG is based open to criticism? In other words, would we have got much the same results in tackling tuberculosis if BCG had not been used.

The degree of immunity conferred by BCG is uncertain, particularly in Britain. We are, therefore, not justified at present in recommending its general and indiscriminate use.

For India at least BCG is an experiment. It is being introduced for the first time, and for the first time in its unsavoury history is going to be used on such a mass scale, under conditions such as prevail in India. If this is not an experiment what is it that constitutes one? As a matter of fact it is acknowledged as in the experimental stage by most of the foremost doctors and scientific authorities and bodies in many countries.

Who is keeping statistical records of this campaign so arbitrarily launched upon India? Has an independent commission been set up to record the facts without prejudice? If the Government and the foreign and Indian doctors who are responsible for mass vaccination are so sure that BCG is "absolutely harmless" why have they not advocated such a commission to allay some of the distrust and reassure doubters? Mr. A. V. Raman, Editor of *People's Health*, was the first to suggest this some months ago and he also brought out some as yet unanswered observations on the matter of BCG being used in India as indeed a gigantic experiment! He quotes Wallgren of the University of Stockholm, who, after explaining some of the difficulties of accurately testing the protective value of BCG, writes :—

We must leave such tests to colleagues in countries where BCG vaccination is not prevalent and is looked on with suspicion.

In view of this ominous pronouncement and some other facts Mr. Raman asks :—

What the research workers are now after is to get wider field for conducting their experiments. Is it

unreasonable to infer, from these circumstances that the present campaign is more intended to be in the nature of research than to afford immunity from tuberculosis to our countrymen? . . . I should be glad to be disillusioned of this unfortunate impression.

But so far neither Mr. Raman nor others who share his "unfortunate impression" have received real reassurance from those in authority or those conducting the campaign. We fear that it will require someone either more candid or better informed than Dr. Benjamin to supply this assurance, for his oral and written statements made without any corroborative testimony on the subject are most unsatisfactory and unconvincing; and neither he nor any of the other doctors and authorities concerned has been able to answer doubts and questions of those who *know* the past history and facts about BCG.

Actually, when all the claims are sifted and examined, all that is claimed by those who advocate the vaccination is that those who take BCG are somewhat *less likely* to develop tuberculosis, but even for this there is no irrefutable proof—and it is admitted by its advocates! (As in the Report from Oslo, Norway.) Then the question arises: Is this uncertain protection for a few years at most (some experimentors have said six months) for only "some" of those vaccinated, worth the risk of illness or even death to others—all of them are healthy before being vaccinated? For *only* healthy children should be given BCG vaccination at all. Put this way in plain language, the launching of a campaign seems absolutely fantastic!

4. THE DEPLORABLE MANNER OF LAUNCHING THE BCG CAMPAIGN IN INDIA

In any immunization campaign careful plans should be made previously and machinery constructed to ensure their being carried out. What plans or machinery exist in India for: (1) Accurate scientific long-term checking of the procedure

and results of the BCG campaign: (2) Accurate records without bias, by disinterested capable individuals or groups; (3) The education and information of the people; (4) The correct continuous information of the public? The answer would seem to be plain. It would seem that none of these essentials have been provided for by either Government or the Tuberculosis Association of India. To administer injections in a miscellaneous fashion hoping for the best results which are not being assessed because no basic data or machinery exist to assess them, is neither scientific nor sensible; and it is "inexcusable optimism to suppose that, beyond the bare administration of the vaccination, nothing more is required to check the disease." (Mr. A. V. Raman). This respected sanitarian has also brought out that vaccination should be only part of an integrated control programme against tuberculosis. With things as they are at present, if any dire results accrue and a panic ensues, the Government and the Tuberculosis Association of India may justly be held to blame, due to their failure to prepare the public mind with accurate information and education.

The propaganda and pronouncements made to promote the BCG campaign stand open to severe criticism. Misstatements in the Press (no doubt due to the hasty and unprepared manner of launching the campaign) were left uncorrected by those responsible for the BCG drive until correction was forced by the public who challenged them. For instance: The *tuberculin test* was in a number of places represented as *BCG vaccination* (even Dr. K. Vasudeva Rao, a promoter of BCG, seems to have made this mistake); the vaccination was in several papers stated as "compulsory"—a grave misstatement which should have been denied by Government immediately in a special pronouncement to the people. The many questions, authoritative citations against BCG, and challenges brought out in public meetings and in the Press, from sincere,

respectable and well-informed citizens, remain unanswered in any adequate or scientific manner. Why? Simply because many of them are unanswerable without condemning BCG, or making inconsistent or worse the continuance of the BCG campaign as at present conducted.

Dr. Benjamin's brochure has already received some criticism, though not all it deserves. In a statement by "Twelve Well-known Doctors in India" they declare:—

As the result of careful study of the literature on the subject we are convinced (1) that BCG vaccination is efficacious and that, if it is carried out on a mass scale, it can be expected to reduce tuberculosis mortality in India very considerably; (2) that it is strictly harmless; (3) that segregation of the vaccinated is not essential.

These men, like any others, have a right to their opinions; but because of the far-reaching effects of their public pronouncement of opinion and the authority and responsibility they have assumed, they must be challenged: These doctors admit that they have made only a "careful study of the literature"—no practical personal experience is claimed by any of them. Even so, it seems incredible that a group of honest, good men could have studied without prejudice the appalling and lurid history, and the conflicting reports of the foremost authorities in the West, past and present, on BCG, and then have reached the conclusions they claim. And even more incredible that, after so studying, they would be willing to shoulder the awful responsibility of a mass vaccination of the youth of their country. Might it not be that the only "literature" they have studied is that especially prepared by the WHO authorities and others concerned, in order to convince them to adopt BCG mass vaccination in India? If this is correct, it is not too late for them to repair the mistake. The more honour to them if they do! There is no discredit for an error made in ignorance, but much attaches to the failure to correct error when more knowledge is gained.

When respected citizens and doctors of honourable reputation—Dr. M. R. Guruswami Mudaliar and Dr. A. Srinivasan, to name but two—questioned sincerely the wisdom of BCG vaccination on a mass scale for India, the Minister of Health, Madras, made in reply unbecoming insinuations about the questioners instead of giving the scientific medical explanations which the situation called for. Confidence in such ventures can only be based on unquestionable scientific data; if there are any such they should be at the tongue's end of everyone responsible; and when they have not been given out they *should* certainly be asked for by conscientious, experienced and intelligent citizens.

Respected, high-class journals of India, especially of Madras, Calcutta, Bihar, Mysore and Bombay have all published much on the deplorable circumstances herein mentioned. There are enough authentic, verifiable quotations in this small selection from vastly more, to convince anyone of honest and open mind that something is wrong somewhere. It is not generally known in the East, that there have been books and articles published adducing evidence to the existence in the West of what is known as the "Medical Racket." This is not the place to recount the details about it; but it is best that Indian doctors, Government Officers and laymen too, wake up to this ugly fact and inform themselves; and take it into their calculations whenever dealing with Western-sponsored campaigns and schemes.

If nothing else, this Government-sponsored BCG Campaign creates a dangerous precedent in Free India. In the U.S.A. the people have had to form the "Citizens' Medical Reference Bureau" to investigate, honestly report, and protect themselves against "compulsion," where measures threaten exploitation, as does this BCG campaign. There are few more pernicious combines than Medical Authority and Government. Neither science nor democracy is served by such—and certainly the people are not. Let

India beware and learn from the mistake of the West, else she may be forced through folly to make a bitter and stupid repetition of them.

5. NO MODIFICATION OF THE CAMPAIGN HAS FOLLOWED PROTESTS AND WARNINGS

The informed and educated *Few* who have demanded facts, not opinions, have so far been ignored for the most part by both medical and Government authorities. The Health Minister of Madras has dismissed as "stray individuals" even venerable and experienced physicians who questioned the BCG vaccination. A group of citizens of several committees in Bombay jointly challenged the pronouncement of the "Twelve Well-known Doctors" in an open letter, published in several widely circulated journals, which has never been answered. So far, all that the many protests have achieved is the forcing of a belated correction in the Press, to the effect that the BCG vaccination is *not compulsory*. The demand for a correct statement on this point was right on principle but even so it is of little practical value because of the illiterate and uneducated state of the mass of the people. In India if an official-appearing person or a school or college Principal tells the average citizen that he must have his child vaccinated the parent will either not dare, or not know enough on the subject, to ask a question; he will simply submit. This state of affairs is well known and has been made use of for years by a number of campaigning groups. Because of this situation, however, the burden of responsibility is tenfold heavier upon those who impose the BCG vaccination and leave the result to hope, which action, in the face of the verifiable facts—and because it is not necessary—is indefensible.

6. IS BCG WHAT INDIA NEEDS?

Why is it that the responsibility of fighting tuberculosis has been summarily taken out of the

hands of the Public Health Departments in the Provinces? There has been no official explanation or justification of this strange move which makes the BCG specialists independent of the Health Service and Chief Medical Officers of the Provinces. Grave risk of demoralization of public servants and the establishment of an undesirable precedent is run by such arbitrary measures. What India needs is more integration, order and co-operation for the common good, not further splits and divisions. This was all brought out by Mr. A. V. Raman in his journal: *People's Health* (February, 1949) but it bears repetition.

Tuberculosis has not suddenly assumed an alarming increase or epidemic form in India. There is no emergency to deal with, as far as tuberculosis is concerned. Yet the only possible excuse for launching such a campaign in the manner of this one would have been a national extremity. Incidentally, the mortality figures given by Dr. Benjamin and by India's Health Minister do not agree. Certainly tuberculosis must be fought, that is unquestionable, but is BCG vaccination the right weapon? Even the BCG tuberculin test is fraught with danger and possible harm, as stated by an American authority, Prof. Maurice Fishberg in his book: *Pulmonary Tuberculosis*, as well as by other experts. Yet thousands are exposed to this risk without the slightest necessity or even knowledge of it! For it cannot be repeated too often that *only the healthy citizens are even supposed to be benefitted by BCG vaccination*. Surely the small percentage of healthy people in India are not so urgently in need of the Nation's limited funds and facilities as the vast number of those already infected and suffering need relief! This divergence of attention, efforts and resources from the needy and the real source of diseases is deplorable.

A number of diseases break out periodically in epidemic form in India. Tuberculosis is not one of these. Cholera, smallpox, plague, enteric,

dysentery and malaria take an awful toll of lives. It is well authenticated by experience and authority in the West that these diseases, *as well as tuberculosis* can be reduced enormously by improved sanitation. Priority should certainly be given to the improvement of nutritional and environmental conditions in India. Gandhiji preached and worked for this; the Bhore Committee also stressed the great importance of the "Creation and maintenance of an environment conducive to healthful living."

... in the absence of such provision the services rendered by the doctor, nurse and other members of the health organization, will largely fail to produce the desired results. In the campaign for improved health, drugs, vaccines and sera can in no way replace such essentials as a hygienic home, good food, fresh air, and a safe water supply.

Again it must not be forgotten that in countries where BCG vaccination is claimed to have been

useful the Government had for 100 years concentrated on improving the living conditions of the people, and reached a general standard far higher than prevails in India—where for 150 years living conditions have been degenerating. Why are the advice and warning of the Bhore Committee disregarded and funds and efforts diverted from the measures of permanent and fundamental value to every citizen of both the present and the future? Why is such a questionable and dangerous experiment as the BCG urged on the unprepared environment and people? These are questions which every Government Official, doctor and citizen who can study the subject, should ask and demand reasonable answers to.

In all commonsense why worry about and spend money on the healthy when the diseased lie in every home and street in the country?

BCG is not what India needs.

BCG VACCINATION—NORWEGIAN NURSE BROUGHT OVER TO TALK TO NURSES IN GREAT BRITAIN

The National Council of Nurses of Great Britain and Northern Ireland arranged a conference on the use of BCG vaccination, at which one of the speakers was Miss R. Spilling, public health nurse from Bergen, Norway. Miss Spilling's address was reported in the *Nursing Times* and the *Nursing Mirror* for March 12. While British advocates of this inoculation have declared that it has reduced enormously the incidence and mortality from tuberculosis in Scandinavian countries, Miss Spilling said that tuberculosis is still a problem in Norway, with annually about 4,000 new cases of pulmonary tuberculosis and 6,000 cases annually of other forms of tuberculosis. More than 2,000 persons die every year of tuberculosis in Norway.

The tuberculosis mortality has declined in Norway. Thirty-one in 10,000 died of tuberculosis during the period 1896-1900, 20 in 10,000 in 1921-25 and 8.6 per 10,000 in 1939. According to Miss Spilling it was not until 1942 that a law came into operation compelling the whole school population of Norway to submit to tuberculin tests and also ordering the mass X-ray examination of the entire population, and it was not until April 1, 1948 that the law came into force compelling all the tuberculin-negative population to undergo BCG inoculation. The remarkable decline in tuberculosis mortality in Norway cannot, therefore, be due to tuberculin-testing or BCG inoculation.

Miss Spilling said that two Norwegian doctors, Dr. Heimbeck and the late Dr. Scheel, led the way in the use of BCG vaccination as performed today in Norway.

(*The Vaccination Inquirer and Health Review*, May-June 1949.)

BCG VACCINATION IN BRITAIN

Those who have been crowing from house-tops that BCG vaccination is no longer in an experimental stage and that it can be adopted on a mass scale with immunity, will be profited by the article extracted hereunder. Surely our experts, both indigenous and imported, cannot certainly claim to have far superior knowledge on the subject than the advisers to the Ministry of Health, England. Why should the boys and girls in our schools and colleges be the *first* victims? The cautious way in which the British Ministry of Health has set about the business with circumspection, shows that real democracy still rules in that country. In our own unfortunate land though foreign autocracy has left the country, still, those who rule us continue to follow the technique of their predecessors.

—Ed., P.H.

The Ministry of Health (England) announces arrangements for introducing BCG vaccination. *Since the method has yet to be put to the test of experience under conditions native to this country, it has been thought desirable to keep the scheme within defined and suitably controlled limits.*

"One part of the scheme will be to offer BCG vaccination to all hospital nursing staffs and medical students as a form of inoculation, among others, to which their professional prudence may dispose them; the other part will be to make the vaccine available to chest physicians or other appropriate specialists—e.g., paediatricians—who may wish to use the vaccine on their individual responsibility in suitable cases such as family contacts of tuberculous persons. The medical advisers of the ministers consider it necessary, at this stage at least, that this form of vaccination should be the responsibility of physicians with specialised knowledge and experience of tuberculosis. It will consequently not be possible for it to be obtained by anyone going to his own doctor for it, though a doctor who may consider it advisable for a particular person will, of course, be able to refer that person to a chest physician."

The arrangements for giving BCG to hospital nurses and medical students who elect to be vaccinated will be made through the responsible hospital bodies, or the authorities of medical schools, as the case may be. "It will be a considerable task to plan and carry out these arrangements throughout the country, and it may take a long time to cover all areas; but within the limits of the medical resources available for

the work every effort will be made to press on with it as quickly as possible."

Chest physicians using the vaccine individually will mostly be those engaged in joint service to regional hospital boards and local health authorities. Where a chest physician in this category undertakes BCG vaccination, he will do so on behalf of the local authority and in association with the M.O.H., since the work will come within the scope of the authority's responsibility for the prevention of tuberculosis under the National Health Service Acts.

Supplies of BCG are to come from the Serum Institute, Copenhagen, from which they will be ordered by the Ministry of Health (or Department of Health for Scotland) and consigned by air weekly. As the vaccine must be used with the least possible delay after it leaves the laboratory, procedure will be laid down for applying to the departments in advance for a specific quantity to be delivered at a stated address for use on a given date. An account has been prepared of the principles and technique of BCG vaccination for the assistance of physicians undertaking it; it is deemed advisable to vaccinate only those persons who do not react to tuberculin, and the strength of the BCG to be obtained from Copenhagen makes it suitable only for intradermal use. Standard forms will be provided for record purposes, and arrangements for a long-term investigation of results are in view.

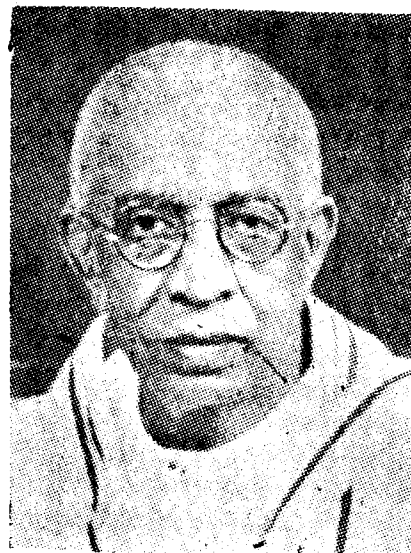
The Lancet, July 2, 1949.

DEVELOPMENT OF INDIAN SYSTEMS OF MEDICINE

by

Dr. T. S. S. Rajan

Minister of Health, Madras.



The subject of my talk this evening is the development of Indian Systems of Medicine. By 'Indian', I mean the systems which were evolved in ages past within the shores of our country and which are in vogue. In South India, in particular, three Indian Systems have been in use—Ayurveda, Unani and Siddha. Much of the old text-books and treatises on Ayurveda and Unani are in Sanskrit and Arabic. The Siddha system was one evolved in Tamilnad. Unfortunately, in the course of the chequered history of our country, part of the ancient literature and treatises seem to have got lost and there was no regular development of the three systems and no proper study and practice on a scientific basis. There was no sound scientific training in the systems and no safe standardisation of the drugs used. The result was, that these systems did not keep pace with the very important developments in the rest of the world or with the multitude of new types of ailments to which mankind has become prone.

MADRAS REJUVENATES INDIAN MEDICINE

Ancient though our systems of medicine are, it was only in 1921 that the Government of Madras, first took up the question of recognition

and encouragement of the indigenous systems of medicine in vogue in the Province and appointed a committee to report on the subject. In pursuance of the report of the committee, the Government established a School of Indian Medicine in Madras, for imparting training in the three systems, supplemented by a course in Anatomy and Physiology, according to the allopathic or Western system. With the object of enabling its alumni to become competent practitioners of one or other of the systems and thus meet the large demand for medical relief in the Province, particularly in the rural areas, the study of General Science, Materia Medica, Pathology, Hygiene, Medicine, Surgery, Obstetrics, Gynaecology, Pediatrics, Medical Jurisprudence and Toxicology, were added to the curriculum of the school and the three-year course was ultimately converted into a four-year one. The study of the subjects of the Allopathic System, occupying as it does about a half of the total period of training, ensures that the products of the school have a working knowledge of proved and efficacious methods of Western treatment, to assist them in their fight against disease. The progress made in the provision of qualified medical personnel for the three indigenous systems can be gauged by the fact that up to date 1,059 men and 109

women licentiates in Indian Medicine have passed out of the institution.

Side by side with the school, a hospital of Indian Medicine and later, a Herbarium, have also grown up; the hospital besides being a curative centre, provides clinical material, so essential for the training of the students.

After the last world war, a College of Indian Medicine was also started in 1947-48 for the provision of a higher standard of training. The University of Madras have been addressed in regard to the affiliation of the college and the nature of the degrees to be given. A temporary building costing Rs. 50,000 has been constructed to provide additional accommodation for the college and provision has been made for eminent practitioners of Indian Medicine and Modern medicine giving special lectures to the students of the College. In addition to the existing hostel for the students of the school and college, buildings for providing additional hostel accommodation are under construction at an estimated cost of Rs. 2½ lakhs. The bed-strength of the hospital has been increased from 110 to 210 and temporary buildings for this purpose are nearing completion. One hundred students are admitted into the school each year and fifty into the College.

In addition to the normal courses of studies in the three indigenous systems, instruction is imparted for a special course of Associateship in Indian Medicine for the training of practitioners of modern medicine in the indigenous systems, and a high proficiency examination in Indian Medicine has also been provided for. Courses of training for Nurses and for compounders have also been introduced.

In short, scientific training on modern lines has been established to rejuvenate Indian Medicine.

So much for the training of personnel in Indian Medicine. In addition, the importance of research in Indian Medicine has not been lost sight of and the Government have sanctioned

the opening of a research department and as a start, appointed a Professor of Clinical Research with a few Assistants. The research institution will be developed further on sound lines.

PUBLIC INTERESTS SAFEGUARDED

In order to safeguard the interest of the public and to prevent quackery, which might do untold damage to public health and inflict great personal suffering on the public, a non-statutory body called the Central Board of Indian Medicine has been established and it registers qualified practitioners of indigenous systems of medicine. Unfortunately, certain provisions in the Registration Rules, have tended to the registration of certain people, who in the light of modern ideas of public safety and well-being, may not be of any benefit to the public, consistent with safety to health. The Government are now taking steps to remedy the defects and thus pave the way for the Indian systems of medicine being practised by men, who have acquired the adequate qualifications and training to practise their profession, with safety to the public health and benefit to the population. The Central Board of Indian Medicine has also been empowered to recognise suitable teaching institutions and pharmacies and there are eight such recognised teaching institutions, training physicians in Indian Medicine.

To provide medical relief, according to the indigenous systems, local bodies in the Province are maintaining 655 dispensaries of Indian Medicine, which are controlled in technical matters by the School in Madras and through three Inspecting Medical Officers. In addition, grants-in-aid are being given to a recognised Ayurvedic College and dispensary. To carry medical relief still further into the rural areas, a Village Vaidya Scheme has been sanctioned, with the ultimate object of providing a recognised Vaidya in each village with a population of 1,000 or more. As a preliminary to the introduction

of the scheme, four training centres have been sanctioned in the Province, at Tanjore, Elore, Mangalore and Madras. The training will be for a period of six months in Medical and Public Health principles and practice.

The entire administration of Indian Medicine has now been entrusted to an eminent physician, who functions as the Honorary Director of Indian Medicine. (Dr. M. R. Guruswami Mudaliar).

RECORD OF PROGRESS

The progress made in the development of Indian Medicine in this Province will be illustrated by the fact that whereas the expenditure on Indian Medicine was only Rs. 30,000 in 1924, it will be over rupees seven lakhs in the current financial year.

The Government are not content with the progress made, appreciable though it may be, but feel that notwithstanding the meagre financial resources available at present, every attempt should be made to undertake further schemes of development and improvement. They have therefore generally approved a plan for the improvement of the College of Indian Medicine, the establishment of a Central Pharmacy and for other desirable improvements, which would involve a capital expenditure of over Rs. 20 lakhs and a recurring additional annual expenditure of nearly Rs. 8 lakhs. These schemes will be taken up for execution as and when funds become available. In this manner, the Government have attempted to develop the indigenous systems, at the same time without sacrificing efficiency or public safety and health, but a great deal remains to be done to carry much needed medical relief into the rural areas.

CHOPRA COMMITTEE

In this connection, it would be of considerable interest to the citizens of this Province to learn that a special committee appointed by the Central Government presided over by

Col. Ramnath Chopra, himself an eminent Physician, well-versed in the indigenous systems also, has submitted a report. Among other recommendations, the committee has stressed the importance of research in Indian medicine, which has been static for many centuries, to enable it to make its contribution to the welfare of the people. It has also advocated state-control of education in, and the practice of, Indian Medicine. It has come to the conclusion that it is not possible to prepare immediately an Ayurvedic Pharmacopœia on the lines of Western Pharmacopœia, in the absence of data. Much of the recommendations of the committee is likely to find favour with all schools of thought in medicine, but its views that it would be practicable and necessary to integrate Indian and Western medicine, have been the subject of considerable controversy.

CAUTIOUS INTEGRATION

It seems to me that when the entire world, including many in India, is following the allopathic system which is daily making rapid advances in diagnosis and treatment, future progress and the welfare of the citizens of this Province demand, that we should continue to utilise the important discoveries and methods of western medicine; but at the same time there can be no doubt that we should incorporate the proved beneficial features of the Indian system, to enrich the western system, and make India second to none in the matter of medical relief and progress therein.

The indigenous systems were mainly developed to suit conditions of life, climate and diseases which existed centuries ago, and have not undergone a process of evolution on precise and scientific lines, with reference to changes in those conditions.

New diseases have come to affect mankind and new scientific methods based on research and experience have to be adopted to fight them.

But in this process it should not be impossible to utilise Indian Medicine. In my opinion, therefore, solution would be to promote extensive and intensive research in the indigenous systems and assimilate into the modern system practised in India, the proved methods of Indian Medicine.

There is a grave danger in going in for any hasty synthesis of Western and Indian systems, as such an integration may mean a smattering of knowledge of the different systems without adequate competency and efficacy in actual treatment. There is a Tamil proverb to the effect that a man who has treated and killed a thousand patients will be only half a doctor. We cannot afford to let half-baked physicians to prove the truth of this statement.

However, the question is obviously not for immediate decision but one for very careful examination by the exponents of all the systems, and decision out of their proved knowledge. I am gratified to find that Medical Associations have initiated free and frank discussions on this problem. The Madras Government will carefully consider the merits and demerits of the various proposals and evolve a policy, which will be best suited for our conditions and will be in the interest of our people. In the meantime, every attempt will be made, consistent with our finances, to extend medical relief of good quality, of all the systems possible, to every part of this Province. In fact, this is our fundamental objective and we should not lose sight of it in the midst of controversies regarding the relative merits of the various systems.

(Courtesy—A. I. R. Madras.)

BIRTH CONTROL BECOMES OFFICIAL IN JAPAN

Faced with a population of 30,000,000 more than it can feed and growing at a rate of more than 1,000,000 a year, Japan at last has recognized the need for birth control. Her excess people are being supported by U.S. taxpayers at a cost of a million dollars a day, a fact which may have spurred action. Here are the latest developments:

The Japanese Government came out "openly in support of birth control," according to a United Press dispatch of March 24.

Warren S. Thompson and P. K. Whelpton, of the Scripps Foundation for Research in Population Problems have been brought to Japan, and Dr. Thompson reported that birth control offers the only hope of solving the population problem.

There was a prompt protest from Roman Catholic spokesmen.

Japanese doctors are calling for birth control legislation. Birth control became legal on April 1.

"ORIENTAL LUXURY"

To reduce the swarms of offspring which Weldon James in the *Louisville Courier-Journal* calls "an Oriental luxury," the Welfare Ministry has approved the sale of contraceptives, and is showing a short movie on the necessity for and the methods of birth control. The United Press says this film attracts large crowds. Besides showing the evils of over population and the benefits of small families, the picture has a doctor to explain methods with the aid of drawings.

On March 27, Bill Costello, speaking from Tokyo on the CBS World News Round-Up, startled his huge radio audience with:

"After more than three years the vocabulary of the occupation has suddenly been enlarged by the term 'population problem.' For a long time, officials here maintained a conspiracy of silence on the subject. So long as they could pretend the occupation was a short term affair, they could pretend also to ignore the fact that 80 million people live here in an area smaller than the State of California. . . . Now that the occupation is settling down for a long pull, there is a growing conviction that something has to be done about regulating Japan's population growth. After all, the U. S. is paying the grocery bill. . . ."

"Before the war, Japanese militarists encouraged large families, and then used population pressure as has now, an Oriental birth rate. There is a need for birth control measures. But no one dares advocate such measures for fear of criticism by religious groups in the States. Japanese medical experts are clamouring for new legislation but when Dr. Warren Thompson last week spoke up on their behalf, there was an immediate protest from the Catholic news agency in Tokyo. American army officers say Japan may continue to be a military menace in the Western Pacific, unless some means is found to retard its population growth."

(From the *Planned Parenthood Federation of America, Inc.*)

LANDMARK IN CANCER RESEARCH

by

Dr. Christopher Howard Andrewes, F.R.S.

The author, a leading authority on virus diseases in Britain, discusses the claim of Professor W. E. Gye, of the Imperial Cancer Research Fund, that cancer is caused by a virus. He thinks there is force in this contention and considers it a landmark in cancer research.

Besides being a Fellow of the Royal Society, the author is a member of the scientific staff of the National Institute for Medical Research at Hampstead, London, and is in charge of the World Influenza Centre set up by the World Health Organisation. In 1925-26 he was Assistant Resident Physician Hospital of the Rockefeller Institute, New York City.

Since the discovery, a century or so ago, that disease could be caused by bacteria and similar minute parasites, people have discussed the possibility that cancer might have a parasitic cause. Many claims to have discovered such a cause were made, but all were soon disproved; the microscope revealed nothing within the cancer which could reasonably be regarded as a causative organism. There still remained, however, the possibility that a virus, a sub-microscopic organism, was responsible. Most pathologists were against such an idea. Cancer was not infectious.

Experimental cancer could be studied in, for example, mice, but could be propagated from mouse to mouse only by grafts of miced tissue; it could be clearly shown that this was possible under the conditions of these tests only when intact living cancer cells were transplanted; the evidence was against the infection of the normal cells of the mouse receiving the graft. So strong were the arguments for this view that it was almost universally accepted.

Then, just 40 years ago, Dr. Peyton Rous, of the Rockefeller Institute, described a malignant tumour in a Plymouth rock hen. This was accepted as an ordinary malignant growth until in the following year he succeeded in infecting other hens by means of dried tissue and of cell-free filtrates of the growth. In other words, this hen-cancer clearly had a continuing cause separable from the living cells. This was contrary to all accepted cancer doctrine; so pathologists escaped from their dilemma by denying that the growth in the fowl was a cancer at all.

Rous patiently accumulated facts which made it certain that this—and other filterable fowl-tumours discovered meanwhile behaved so exactly like other cancers in all other essential respects that it was sheer nonsense to try to deny them the appellation of cancer.

Meanwhile, a few other filterable cancers were discovered, a kidney-tumour affecting leopard frogs in Vermont, and a warty growth going on to cancer in cotton-tail rabbits from Kansas.

This last has again been most fruitfully studied by Dr. Rous.

Finally, Dr. Bittner, in Minnesota, discovered that breast-cancers in mice developed because those mice as sucklings had taken in with their mother's milk a filterable multiplying agent having all the properties of a virus. The doctrines of 40 years ago still have such a hold that most pathologists hesitate to speak of a virus in this connection and still refer to this breast-cancer virus as a "milk-factor" or an "influence"; it is now known, however, to have all the properties of viruses and its picture has been taken within cancer cells by the electron microscope.

VARIOUS CAUSES

Let us consider another side of the story. New cancers can be produced in mice by a variety of agents, by painting with tar, by X-rays, by ultra-violet irradiation, by injecting certain pure chemical substances. Every pathologist nowadays has to admit that some cancers may be due to viruses, but most of them say a virus is only one, and that a rare cause; chemicals and unknown agents are much more usual causes; the virus cancers of hens, frogs and cotton-tails are zoological curiosities.

Rous, in the U.S.A., and Gye, in Britain, were quick to point out that the tumour-producing action of viruses showed an important difference from that of the other agents. The tar, the X-rays were active in causing a cancer to start; once it had begun they played no further part in keeping it going. Tumour-viruses, on the other hand, multiplied within the growing cancer cells, constantly driving them on in their malignant course; they were a continuing cause. The few who held that viruses were important in all cancers felt that the difference between Rous' fowl tumours and other experimental cancers might be merely one of degree, that improvements in technical methods might show that there was no fundamental difference between the tumours of the two species.

Now, exciting news of such technical advances has come. Professor W.E. Gye, of the laboratories of the Imperial Cancer Research Fund, has reported in a lecture to Britain's Royal College of Surgeons that a number of mouse cancers can be transmitted by means of dried tissue.

It is not easy to convey to the layman the significance of this apparently dull and certainly very technical finding. It is, however, a landmark in cancer research. It is not believed that mammalian cells can be thoroughly dried and yet survive. Therefore, what for long seemed not to happen has now been shown to happen: mouse cancers—and by implication cancers of other mammals including man—can be produced by injection of a multiplying continuing agent which can be separated from the cancer-cell itself. In other words, something infects cells—just like a parasitic microbe causes them to be cancerous and is recovered in increased quantity from the new cancers. Almost certainly, that active agent, since it cannot be seen in ordinary microscopes, is a virus.

NEW TECHNIQUES

This is what Gye claims on behalf of his colleagues and himself. Can we accept it as fact? There have been earlier claims to have established a parasitic cause for cancer, and they have not stood up to critical tests. Are we any surer now? Gye's first evidence is that mouse cancer cells can be frozen for long periods and far below freezing point without losing the power to produce cancer. They can be safely treated with strong glycerine and strong sugar solutions which no whole cell would be expected to survive.

In all these cases, however, there is room for argument that the cells were not all dead. But drying is a different matter, and Gye has employed drying to a very dry power indeed. Gye himself and many others in past years have tried to dry mouse tumours again and again and have failed.

Two improvements in technique have brought success. First, Dr. Craigie has made a better drying machine. Secondly, it has been found that there are immense advantages in freezing the cancers for some time before drying them; the active agent is far more likely to survive, and, indeed, may not survive at all if the preliminary freezing is not carried out. One can speculate as to the reason why this preliminary freezing is so useful, but one lacks real evidence on the point.

In the printed account of his lecture, Gye reported that three connective-tissue tumours or sarcomas had been successfully dried; in the lecture itself he gave stop-press news that the same had been achieved also for three breast-cancers, all of mice. If he had succeeded with one, or even two, mouse tumours, one could perhaps relegate them to the curiosity collection along with the growths of leopard frogs and cotton-tails. But here seems something more, a means of showing, by use of new techniques, a general principle which brings tumours in general into line with those which seemed to be only curiosities.

THREE ESSENTIALS

Three things are necessary for our complete conviction.

- (i) It must be clearly shown that this drying can be produced at will with all sorts of tumours. We must be absolutely certain that we are not still wandering in the curiosity museum.
- (ii) We must be absolutely sure that no living cell in these cancers have survived the drying. It is hard to prove a negative, but we must have that degree of certainty which would enable a jury to convict. All we know, of complex mammalian cells suggest that they would disintegrate into fragments if one dried them. If they do not disintegrate our present ideas about cells are all wrong. Patho-

logists would never seriously consider the possibility of abandoning their established notions on this matter, if the alternative were not to throw overboard their even more deeply ingrained ideas of the nature of cancer.

- (iii) Any important discovery becomes doubly and trebly convincing when the work can be repeated in other laboratories.

Why is it important to settle if viruses cause cancer? Will it help us to prevent or cure cancer? The answer is that, even if we cannot see far ahead, understanding of cause must ultimately help towards successful prevention and cure. Any advances in the difficult field of virus chemotherapy, for instance, will seem more likely to be applicably in the future to cancer. More immediately important, an enormous amount of current research work on the cause of cancer, can be discarded as unprofitable; and efforts can be directed to following up this new lead, and new lines of work which it suggests.

One thing the man-in-the-street should realise. Because a parasitic virus causes cancer, it does not follow that cancer is an infectious disease like measles; indeed, we know it is not. There are plenty of other parasitic diseases which are highly conditioned, that is the parasite may be there, even within the "host" or victim, but no disease will be caused until other conditions are fulfilled. Many people have the virus of perpes simplex or fever-blisters always present in their tissues; the eruption only occurs, however, when a cold or some other stimulus upsets a balance between them and their tame virus.

So, too, there may be a "sleeping" cancer virus in mice, doing no harm until X-rays or tar upset a balance between virus and cell and the cancer starts. Attention to the upsetting agent may be more practically important than attention to the virus. But the upsetting agent is not the cause; it looks as if the virus were essential, too.

WHERE LEPERS LIVE IN COMFORT

Malaya's Self-Contained Colony

Malaya, despite its present troubles, can boast of its excellent standards of public health and sanitation. Poverty as it exists in many eastern countries is practically unknown, and the beggar non-existent. With a total population of only about 5,000,000, including that of Singapore, Malaya is compact enough for effective enforcement of health measures. Cases of infectious and contagious diseases are promptly segregated.

But the greatest consideration is shown to the victims. They are provided with all possible facilities to make them happy and contented. The institutions maintained for the purpose are run on the most up-to-date lines and the leper colony at Sungei Buloh in Selangor, about 15 miles from Kuala Lumpur, where these pictures were taken, is typical of such institutions.

Lepers from all over Malaya and Singapore are sent to this colony. If a person is suspected to be suffering from leprosy, he has to submit himself to a thorough inspection and if the disease is proved he has to go into the colony. Within the colony, however, conditions are very much

the same as those prevailing outside. Even the most casual visitor cannot help noticing the complete absence of that feeling of frustration usually associated with the inmates of any asylum.

The Sungei Buloh Colony is a Federal institution, taking lepers from the whole of the Malay Union, irrespective of nationality. At present there are about 1,900 members of the colony, including a good many Indians. Except for the doctor-in-charge and a matron the rest of the staff are themselves sufferers from the disease.

The colony is a self-contained and a self-subsisting community. It has its own places of worship and recreation. It has its bachelor quarters and homes for married couples, and some of the inmates even sell merchandise from their own shops. The club-room has a full-size billiards table, dart boards, radio and pianos, etc. The club subscribes to a large number of news-papers and periodicals, and from its lending library members can take books. As can be seen from the accompanying set of pictures the inmates really miss few of the pleasures of life.

CONTROL OF LEPROSY—HOPEFUL

The outlook for the control of leprosy is becoming increasingly hopeful. The successes so far obtained in the conquest of infectious diseases have come largely not from the extermination of the infecting organism, but from the control of the means by which it reaches man. The situation is not less hopeful for leprosy, for the facts of child leprosy have shown us a way of control of the means by which the leprosy bacillus establishes itself in man. If men went about it with intelligence and a conscience, if the sight of leprosy roused in us not only the pugnacity of self-preservation, but also the tenderness of fellow-feeling, we should more speedily see an end of fresh infection in leprosy. For those already infected, modern medicine and a more human approach hold out the hope of a reasonably comfortable existence.

(From "All about Leprosy" by T. N. Jagadisan.)

POLIOMYELITIS

CLINICAL FEATURES

(INFANTILE PARALYSIS)

Typically there are three phases in the illness recognisable as poliomyelitis. In many cases there is also an initial or prodromal illness followed by a distinct interval of 5—7 days before more serious signs of disease appear. The chronology is as follows:—

	Usual interval in days from date of infection.	Manifestations.
STAGE A— Prodromal illness ..	1—4	Fever, weakness, perhaps sore throat or diarrhoea and occasionally pain in chest or limbs.
STAGE B— Phase 1 (on set) ..	7—18 (Up to 21)	Fever, flushed face, furred tongue, headache, sometimes vomiting, drowsiness, irritability, vague subjective phenomena, increasingly stiff neck, sometimes exaggerated tendon reflexes.
Phase 2 (pre-paralytic or meningitic).	10—15	Sometimes well-marked intoxication and coma, pain on flexion of neck and spine tenderness and hyper-aesthesia, sometimes nystagmus.
Phase 3 (Paralytic) ..	13—18 (up to 35).	Hyperaesthesia and weakness of muscle groups going on to flaccid paralysis due to anterior-horn cell lesions; diminution in tendon reflexes. Often the paralysis improves after reaching its height.

The prominent symptoms in all phases of Stage B are referable to the central nervous system; they suggest a certain order of progression which may indicate the progress of inflammation within the central nervous system. There may be intermissions in this progression, and one or both of the later phases may not develop.

INFECTIVITY

The disease has been notified from many different centres throughout the country, and from some of these there has been evidence of radial or concentric spread. It is known that non-paralytic cases of the disease are able to transmit it to others who may or may not develop paralysis.* This has been confirmed by laboratory investigations, which have also revealed the presence of

* An illness probably due to the same virus, in which the lower motor neurones escape and the signs and symptoms are predominantly those of meningeal and cerebral involvement is notifiable as poliomyelitis.

poliomyelitis virus in healthy contacts. Infectivity is however probably greatest during the phases preceding paralysis; in fact the clinical paralytic disease is essentially an infrequent incident occurring among a far larger number of cases aborting in stage A or phase 1 of stage B; but these are none the less infectious.

ACTION BY PRACTITIONER

At this time poliomyelitis should be considered whenever a practitioner is called to see a febrile child (or even an adult) with indeterminate symptoms, particularly if others in the same environment are complaining of the same symptoms, or if there has been within the previous two weeks any other febrile illness (e.g., "influenza" or sore throat of unknown origin) in the patient or his contacts. The patient should be put to bed in a room by himself and examined at every visit until a diagnosis has been made.

Careful search should be made for early indications of invasion of the nervous system; in particular the patient should be examined for neck rigidity, which may be elicited by asking him to kiss his knees while sitting up in bed. If the symptoms continue for 24—36 hours without the appearance of signs indicating one or other of the common infections of childhood, the medical officer of health should be informed. There should be no hesitation in reporting a case to the medical officer of health if, with the slightest suggestion of neck rigidity, there have also been psychological disturbances such as fear, bad dreams, disturbance of sleep, drowsiness by day, restlessness by night, and peevishness; these disturbances not uncommonly precede the signs of meningeal invasion. Home isolation at onset and on suspicion is a most useful measure in preventing spread of the disease. Nose and throat discharges and excreta should be disinfectant.

A patient who is suspected of poliomyelitis should be kept continuously in bed in a room by himself for not less than one week, having regard to the well-known tendency for the symptoms and fever to subside in two or three days' time and then to recur. Isolation of confirmed cases from other children should continue for three weeks. Contacts should be excluded from school for three weeks after isolation of the patient. Restrictions need not be placed on adults living in an affected household provided they remain well.

It is notoriously difficult to appraise the value of any treatment in poliomyelitis; there is no evidence that convalescent serum given in or after the preparalytic stage has any curative effect. Experience of prophylaxis with gargles or nasal sprays has been disappointing. There is, however, overwhelming evidence that a recent tonsillectomy increases the risk of a child contracting poliomyelitis, particularly of the bulbar type; where poliomyelitis is prevalent, operations on the nose and throat should, if possible, be postponed.

ACTION BY MEDICAL OFFICER OF HEALTH

On receiving a notification or learning of suspected cases of poliomyelitis the medical officer of health should proceed on the following lines:

- (1) advise all practitioners in the area;
- (2) assist in securing suitable accommodation, including isolation, for the patient;
- (3) make investigation of the associated circumstances, including a search for missed and abortive cases;
- (4) ensure that precautions are taken, on the assumption that the disease is capable of transmission by mild abortive cases;
- (5) follow up all notified cases throughout the whole period of their illness, to ensure that their treatment is suitable and continuous.

When multiple cases have occurred in a district, all crowded assemblies should be discouraged, and as far as possible, all gatherings of young children and unnecessary travel should be avoided. Young children should not be allowed to enter any house where there is a case of undiagnosed illness. Contacts should avoid physical strain. School closure is undesirable, except under special circumstances*; this advice does not apply to day-nurseries or nursery schools. As far as possible the normal groupings of the child population should be maintained and sick children removed promptly.

The medical officer of health should also advise his council first as to what can be done to promote early diagnosis during the acute stage, and secondly what arrangements can be made under the local orthopaedic scheme to send all children affected, whether slightly or seriously, to an institution equipped to give such special treatment as may be required to prevent avoidable muscular weakness or permanent deformity. In view of the common occurrence of poliomyelitis

* See *Lancet*, 1946, i, 972.

below the age of 5 years, and bearing in mind the good results of effective treatment and the serious consequences of neglect, it is important that doctors should know of the facilities for orthopaedic treatment available through the maternity and child welfare and school health services. In the course of their routine visits, health visitors may hear of suspicious early cases, or of children with mild paralyses due to an undetected attack. If the local prevalence assumes epidemic proportions, information should be circulated to the public regarding the care to be observed in the event of attack, and the facilities for treatment available in the district.

In view of the fact that the virus is excreted in the faeces and has been found in flies, the possibility of waterborne or other alimentary infection should be kept in mind; but reliable evidence of spread by these means is lacking.

LABORATORY INVESTIGATIONS

In addition to any routine chemical and cytological examinations of cerebrospinal fluid

which may be carried out locally for diagnostic purposes, certain examinations are being done at the Central Public Health Laboratory which, although not of direct help in the diagnosis of individual cases, may throw some further light on the epidemiology of the disease. The specimens required for these investigations: (i) about 5 c.cm. of serum from definite or suspected cases (where possible two specimens should be taken)—one in the acute stage and one in the convalescent stage; (ii) cerebrospinal fluid or fresh post-mortem material from cases of doubtful diagnosis—i.e., those cases in which meningeal or encephalitic signs and symptoms predominate. Post-mortem specimens (brain or spinal chord) should be placed in equal parts of glycerin or normal saline. Both the specimens and cerebrospinal fluid must be kept in a refrigerator, and arrangements will be made for collection if the Public Health Laboratory Service is notified.

(Extracts from *The Lancet*, July 26, 1947.)

THE OBJECTIVES OF MEDICINE.

The objectives of medicine are to do what can be done to prevent disease and then to give each patient, regardless of his means, the best care possible at the time, whatever the nature and the stage of his illness may be. These objectives cannot be reached in full measure without the organised cooperation of professional, scientific, private, social, philanthropic and governmental agencies. In a number of acute infectious diseases, successful preventive and curative services are within fairly easy reach of all the people, at least in countries like ours; but it is distressing that there are other infectious diseases which escape control from lack of the necessary knowledge as well as from failure in application of available knowledge. This is true of epidemic poliomyelitis.

Ludwig Hektoen, in his foreword to *Infantile Paralysis* by Philip Levine.

AN APPRECIATION FROM AMERICA

Readers would be interested to peruse an appreciation expressed by Mr. W. W. Sampson in reviewing a copy of *People's Health*, in the *Sanitarian* (Vol. II, No. 5)—a journal of sanitary technology, the official publication of the National Association of Sanitarians, Parkman Ave. Los Angeles, 26, Calif.

The sub-heading on the table of contents of this journal proclaim 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. The magazine is one for the general public, yet many of the articles it carries make no concession to this fact, but are often very technical. Both editorials and articles can be very militant and pungent, if those of the June, 1947, issue (Vol. I, No. 9) can be used as examples. 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" in this particular issue.

One can judge the quality of the magazine from the contents:

Cartoon (on housing).

Editorial: Electricity in the Village (G. Sunderam).

The Problem of Nutrition in India and the Responsibility of the People (V. N. Patwardhan).

Labour Conditions Within the Factory (Sir W. Garrett).

Nature's Influence on Epidemics (Dr. R. Adiseshan).

Water in Relation to Health (T. N. S. Raghavachari).

The Health of the State is the State of Your Health (P. Singh).

Health Workers! (By One of You).

Pioneers in Public Health—To Our Young Friends (Mohan; concerned with Louis Pasteur. Readers' Forum.

Law and People's Health (F. A. Marston: "Legal Decisions Relating to Distribution of Public Water Supplies." A reprint from the J.A.W.W.A.)

There are a number of fillers, all of which are well chosen.

The issue runs to about 50 numbered pages, on high-grade newsprint. The format is attractive, with text separated from advertisements.

Both the editor and manager are to be congratulated on their handling of such an active newcomer to the field.

—W. W. Sampson.

Annual subscription Rs. 12, Payable at Madras. Apply to: The Manager, *People's Health*, Madras, 14.



"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!

PROCEEDINGS OF THE INTERNATIONAL CONGRESS ON POPULATION AND WORLD RESOURCES IN RELATION TO THE FAMILY.—Aug. '48.

Author: Family Planning Association of Great Britain.

Publishers: H. K. Lewis & Co., Ltd., London.

Published: In August, 1948, Price 10sh. 6d.

Pages: 246. *Size* 8"×5½".

The Congress was held under the auspices of the Family Planning Association of England. The delegates of this International Congress were, unlike the members of other International Proceedings, non-officials and unconnected generally, with official International bodies. For this very reason, much useful work has been done during the three days of the Conference.

The printed proceedings of such bodies generally make dull reading. The dead letter rarely reproduces the spirit of the living word or of the atmosphere in which those ideas are expressed. Here is an exception. Not only is the production attractive but is capable of provoking thought and enlisting our emotions. It has an irresistible appeal both to the head and the heart.

Nor is this surprising when we think of the moving spirits of this Congress. Mrs. Margaret Sanger who guaranteed the experiences is a pioneer cast in the heroic mould. Against a conservative and obstructive state, against a

persecuting church, she fought a lonely battle for the alleviation of the sufferings of poor women condemned to travel from pregnancy to pregnancy in unlimited misery. She fought and by her undaunted spirit won the battle, until in this Congress a respected clergyman could give the blessings of the church to the idea of family limitation, of family planning.

Sir John Boyd Orr has shown himself a humanist of the finest type. Of him we shall have to say something more in the course of this review. Lord Horder, one of the most eminent physicians of the day, is more than a physician,—interested in welfare of humanity, not in the abstract, but in a deeply personal and individual way.

In his initial speech Lord Horder summarised the scope of the work of the Congress under three heads—

First, the question of the world's population; second the question of the world's food resources; and third the question of family planning, which according to him is the social and economic unit in a progressive community. The discussions that followed in the next few days dwelt in greater detail with the problems arising out of these questions.

Book Shelf

The factors that affected the trend of population and the methods by which they may be controlled gave rise to expression of many different points of view. In this, as in other social sciences, it is always inevitable that an element of subconscious prejudice should influence even the postulating, scientific theories. It is, however, a happy augury that a few were capable of rising even above such subconscious influences.

Dr. C. P. Blacker gives a short description of what he called the five stages in the demographic cycle. These according to him were—

- (1) The stage of high birth-rate and of high death-rate with a low survival rate.
- (2) The stage of decreasing death-rate and of high birth-rate.
- (3) The stage of still further decreasing death-rate and a decreasing birth-rate.
- (4) The stage of low death-rate and of low birth-rate with a stationary population.
- (5) The stage of low death-rates and still lower birth-rates leading to a decline in population.

Prof. Whelpton analysed the problem in much the same fashion, when he referred to countries in the Malthusian stage or countries in the controlled stage.

The analysis of population-trends in relation to the gross numbers, is fairly complete today. Economists and demographers, since Malthus first stated the problem, have shown increasing interest in this aspect. It is only in recent years that attention has been drawn to the age-group distribution of population as of vital importance. Populations in what are known as countries in the controlled stage show the phenomenon of an ageing population relatively large numbers of which are above the working age. A lop-sided development such as this leads to the fear that production will fall and thus lower the standard of living of these advanced countries. We therefore see the paradox of a desire to increase the birth-rate in such regions, at the same time that the

people of other regions are exhorted to limit their populations. Here is a fruitful source of misunderstanding and international and inter-racial rivalry.

Recent history has shown that neither family limitation nor family increase can be achieved by governmental action, unless it runs in line with the desire and needs of the individual family. Fascist Italy, Nazi Germany and even democratic France and England have found that their appeal either to patriotic emotions or to economic advantages have very little effect. Even the establishment of government maternity clinics, giving sexual education, and teaching methods of birth-control, have influenced but little the growth of populations in countries with a low standard of living. Dr. Mansour of Cairo put his finger on the spot when he considered the motivating factors which make for the popularity of large families in the high death-rate countries. He said: "One of them is certainly that the large family is a sort of insurance." If there is a high infant mortality rate, it is much wiser, so people think, to have many children; some will die but some will not. It is also a method of investment against old age. . . . Moreover, if we have not much money to spend on hobbies, it keeps us busy to bring up a large family; it gives us some gratification to bring them forth and later to bring them up if they live." He was equally clear about the solution of the problem. There is no use attempting to raise the standard of living of these regions in a slow and gradual fashion. "A small rise spread over a long period of time will make for an increase in population not for a raising of the actual or expected standard of life or of the aspirations of people towards a better standard of life." It is therefore essential that the standard of living should be raised rapidly and that this should go hand in hand with programmes of education. Ways and means of doing this were put in a nut-shell when he stated that "there must definitely be a sort of revolution in the

means of production in these countries, mainly through industrialisation and also through distribution of wealth."

It is not surprising that the problems of the old civilisations and older countries should be stated more clearly by one who himself is a part of that civilization and therefore can understand the human motives that lie behind this population problem. It is however further necessary that the nature of the problem and the method of achieving the desired aims should be understood not only by the people of these regions but by the people of other regions more happily situated. The world's population is the world's problem and cannot be solved by one part of it.

The highly industrialised countries must realise the urgency of bringing other countries to a much higher level of industrialisation and the work must be done with the same energy which was devoted to the prosecution of the war. Industrial plants and expert guidance must be provided by methods similar to those used during the last war.

In fact, we might say that the war is still on and that unless the world's population is brought more or less to a uniform level of welfare, the present chaos and the fear of a future and even more destructive wars cannot be banished.

Enough has been said to show that this publication is a mine of information. The key-note of the conference was struck by Sir John Boyd Orr, in his very first speech and it is to this key-note that we should like to refer in conclusion.

Speaking of physical necessities only, not because he thought culture and spiritual values were less important, he said good housing, good food, good clothing and a sense of security must be the basis for any advance in culture and education. I have therefore made these two assumptions: that it is the duty of every Government to ensure the primary necessities of life for every

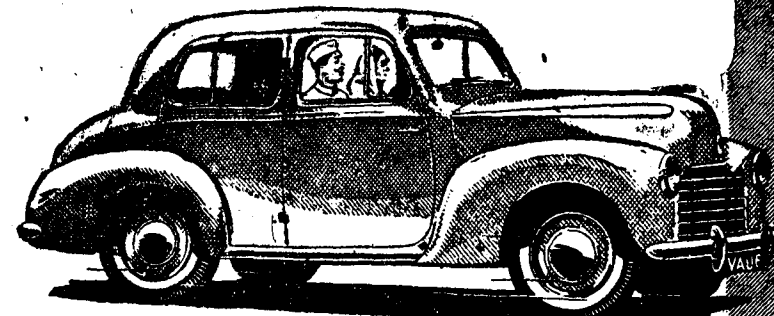
family, and that we have to regard all countries as having the same right to the primary necessities of life." By 'housing' he meant not merely shelter, but a house in a sanitary environment, free from diseases.

Speaking of population growth, he said: "We talk of birth control, of migration and so on; but, in my view, the only way to get a static population is to raise the standard of living of people and to spread education." On the question of political ideologies, his views were equally clear and equally emphatic. Malthus did not realise the fact that people will not die quietly. They rise and fight, and they will pull down any government that cannot provide the necessities of life, as soon as they believe that those necessities can be provided. Take the spread of Communism in Europe. You do not find it in America or in the West End of London. People who are short of food and especially people whose standard of living has come down, are not interested in anything else. They are not interested in political ideologies but they follow any one who will give them food."

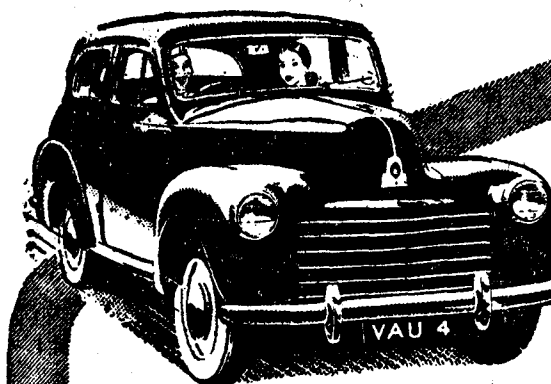
These are words of wisdom and particularly in the present juncture of the world and of our country. It is to be hoped that statesmen as well as politicians will take note of the warning given by him. "Government", he said, "are always at least a decade behind intelligent thinking people; that is well known. Social measures began long before the governments took them up. The successful politician has to keep his ear close to the ground, find out which way people are moving and then hurry up to get to the head of the procession and pretend to be leading them." This is a terrible indictment. Today, it is not enough to have politicians of this type. We must have leaders who can lead and who will think ahead of the people, whose leaders they are. In this view, we recommend the study of this publication to all our public men.

T. V. Ramamurthi.

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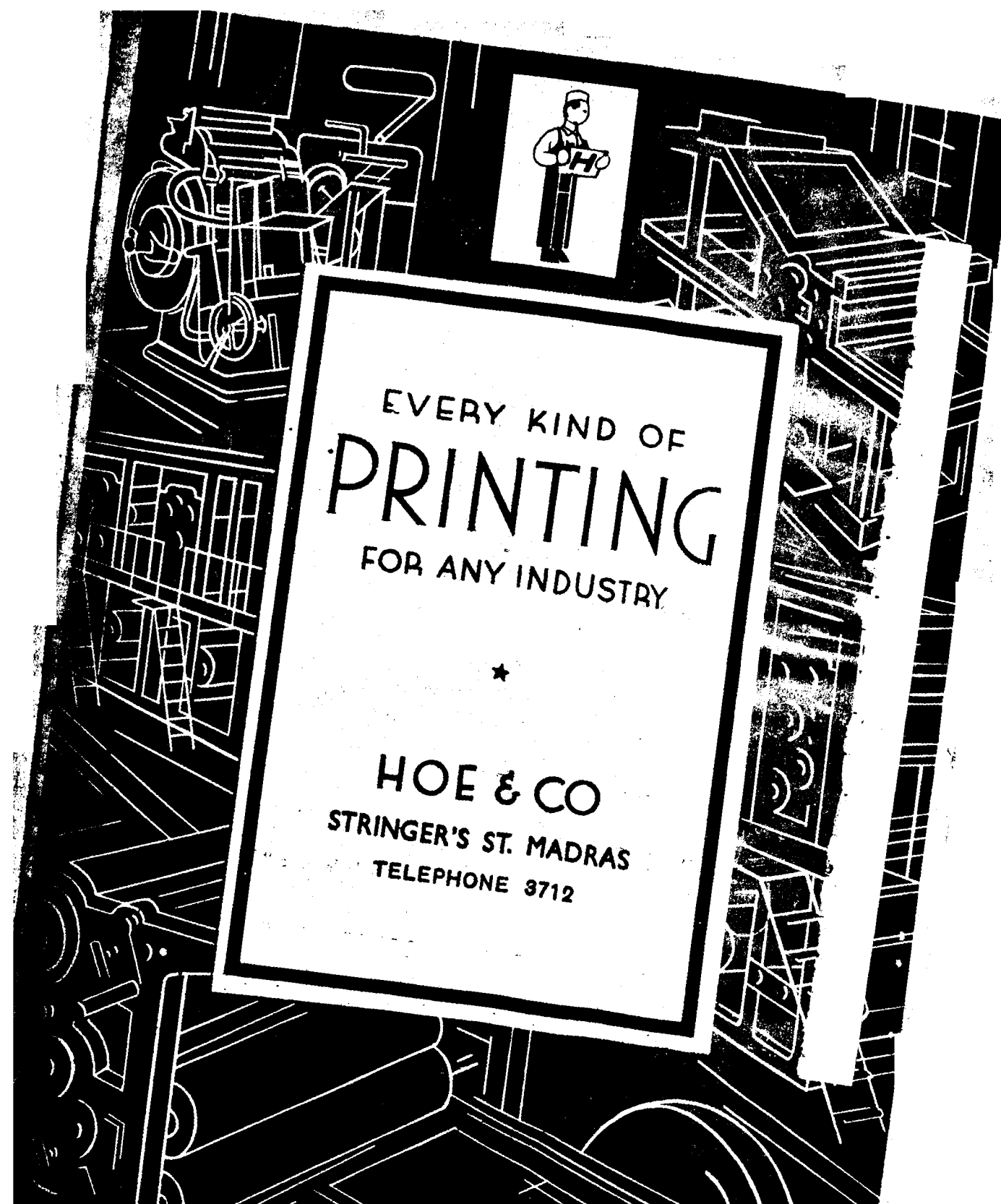
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[illegible]