

435

# PEOPLES HEALTH

435 82  
2.11.



EDITOR  
A.V. RAMAN



RE. ONE

VOL. V

APRIL 1951

NO. 7

# WATER SUPPLY & DRAINAGE SCHEMES

*for*

## INVESTIGATION, DESIGN & EXECUTION

★

RESPONSIBILITY ONE CONTRACTOR  
ONE RESPONSIBILITY

★

*We are glad to announce  
that we have secured the  
Services of Specialists—  
Indian and Foreign—in  
Field Work, Design  
and Execution*

**EASUN ENGINEERING CO., LTD.,**  
5-7, SECOND LINE BEACH, MADRAS-1

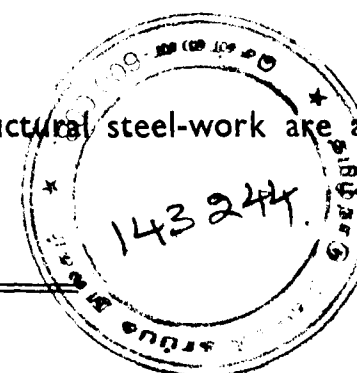
# HIGHWAY ENGINEERING

IS SPECIALISED NOW-A-DAYS

The construction of highways is surprisingly economical in the long run, provided modern specialised knowledge in the field is fully utilised.

We provide that specialised knowledge both in design and construction.

Reinforced concrete and structural steel-work are also our speciality.



**Messrs. TARAPORE & COMPANY,**  
ENGINEERS AND CONTRACTORS,

10, MOUNT ROAD, MADRAS-2.

Telephone: No. 84128

Telegrams: "Taraporeco" Madras.

## VITAMIN SUPPLEMENTS

for children, mothers and convalescents.

Especially in India, where the fat content of normal diets is on the low side, the fat-soluble Vitamins A & D are not always fully absorbed. Sufficient Vitamin intake is therefore better assured

by prescribing Vitamins in their natural oily base. Madras Government's Shark Liver Oil preparations offer the further advantages of convenience and extremely low cost.



Fresh concentrate of  
**SHARK LIVER OIL**

Only just sufficient oil is retained in this concentrate to serve as a vehicle for the Vitamins. Adamin is therefore harmless even to infant digestions. It is practically tasteless in milk or fruit juice, only a few drops being required per dose.

Sold in 40 c. c. bottles  
standardized to:

VITAMIN A 12,000 International Units  
VITAMIN D 1,000 per gramme.

This preparation ensures the full complement of Vitamins A & D at a cost of only 1/2 anna per day, or half that of the lowest-priced Cod Liver Oil. The refined vegetable oils with which the fish oil is blended add a valuable fat-food to the diet of the poorer classes.

Sold in 1 lb. bottles  
standardised to:

VITAMIN A 1,500 International Units  
VITAMIN D 100 per gramme.



Madras Government Brand  
**SHARK LIVER OIL**

**GOVERNMENT OIL FACTORY, CALICUT**

Department of Industries & Commerce

**GOVERNMENT OF MADRAS**

Distributors for South India:—**PARRY & CO, LTD., MADRAS.**

SISTA'S-GO-7

**COTTON YARNS**  
5,00,000 Spindles  
Counts upto 80s  
Put to the Highest  
Test of Strength and Reliability

**MADURA MILLS YARNS**  
HAVE PROVED THE BEST  
BY THEIR OUTSTANDING  
QUALITY

**MADURA MILLS CO., LTD.**  
Mills at:  
MATHURAI, TUTICORIN & AMBASAMUDRAM

We supply Grey Yarns of all descriptions  
for Weaving and Hosiery Factories.  
We do no Weaving ourselves

Our Specialities:  
SINGLE YARNS, DOUBLE YARNS, CHEESE YARNS,  
WARP YARNS, CONE YARNS, CORD YARNS,  
COMBED YARNS, Etc.

Managers:  
**A. & F. HARVEY LTD.**  
MATHURAI

# INDIA'S GREATEST NATIONAL ASSET

IS

## HER RAILWAYS

The Country's prosperity depends to a large extent on the efficiency of her transport system. Railways, as the principal arteries of the nation, are now engaged in an all-out effort to contribute to national progress. You can help the Railways to serve the Nation by :

- \* DISCOURAGING TICKETLESS TRAVEL, AN ANTI-SOCIAL ACTIVITY WHICH CAUSES A TREMENDOUS LOSS OF REVENUE.
- \* PROMPTLY LOADING AND UNLOADING WAGONS WHICH ARE HEAVILY IN DEMAND FOR CARRYING FOOD AND OTHER ESSENTIAL COMMODITIES.
- \* USING RAILWAY CARRIAGES, PLATFORMS, WAITING HALLS, ETC., PROPERLY AND MAINTAINING HYGIENIC CONDITIONS.
- \* TENDERING YOUR PACKAGES FOR BOOKING BY RAIL, SECURELY PACKED, NEATLY LABELLED AND CLEARLY MARKED, THEREBY REDUCING THE INCIDENCE OF CLAIMS.

*Inserted by*

**THE PUBLIC RELATIONS OFFICER,  
SOUTHERN RAILWAY, MADRAS.**

## PEOPLE'S HEALTH

A Pioneer in the Field of

Public Health

Vol. V.

APRIL, 1951

No. 7.

### CONTENTS

| Subject and Author                  |         | Page | Page                                                                      |
|-------------------------------------|---------|------|---------------------------------------------------------------------------|
| Nature IS Merciful !!!—             |         |      |                                                                           |
| A Cartoon                           | .. .. . | 264  | Report Of The Environmental Hygiene Committee: Highlights And Side-lights |
| Editorial                           | .. .. . | 265  | —By A. V. Raman .. .. . 290                                               |
| An Address to Engineers             |         |      | Achievement in Combating Malaria in U.S.S.R.                              |
| —By M. S. Thirumale Iyengar         | .. .. . | 268  | —By L. Oppenheim .. .. . 295                                              |
| Yes, Those 2½ hours                 |         |      | What Causes Peptic Ulcers                                                 |
| —By S. Kamesam                      | .. .. . | 272  | —By Trevor I. Williams .. .. . 297                                        |
| The Building Of The Nation's Health |         |      | Do You Know? .. .. . 298                                                  |
| —By K. C. K. E. Raja .. .. .        | 276     |      | Wit And Wisdom .. .. . 300                                                |
|                                     |         |      | What Do They Say About It? .. .. . 302                                    |

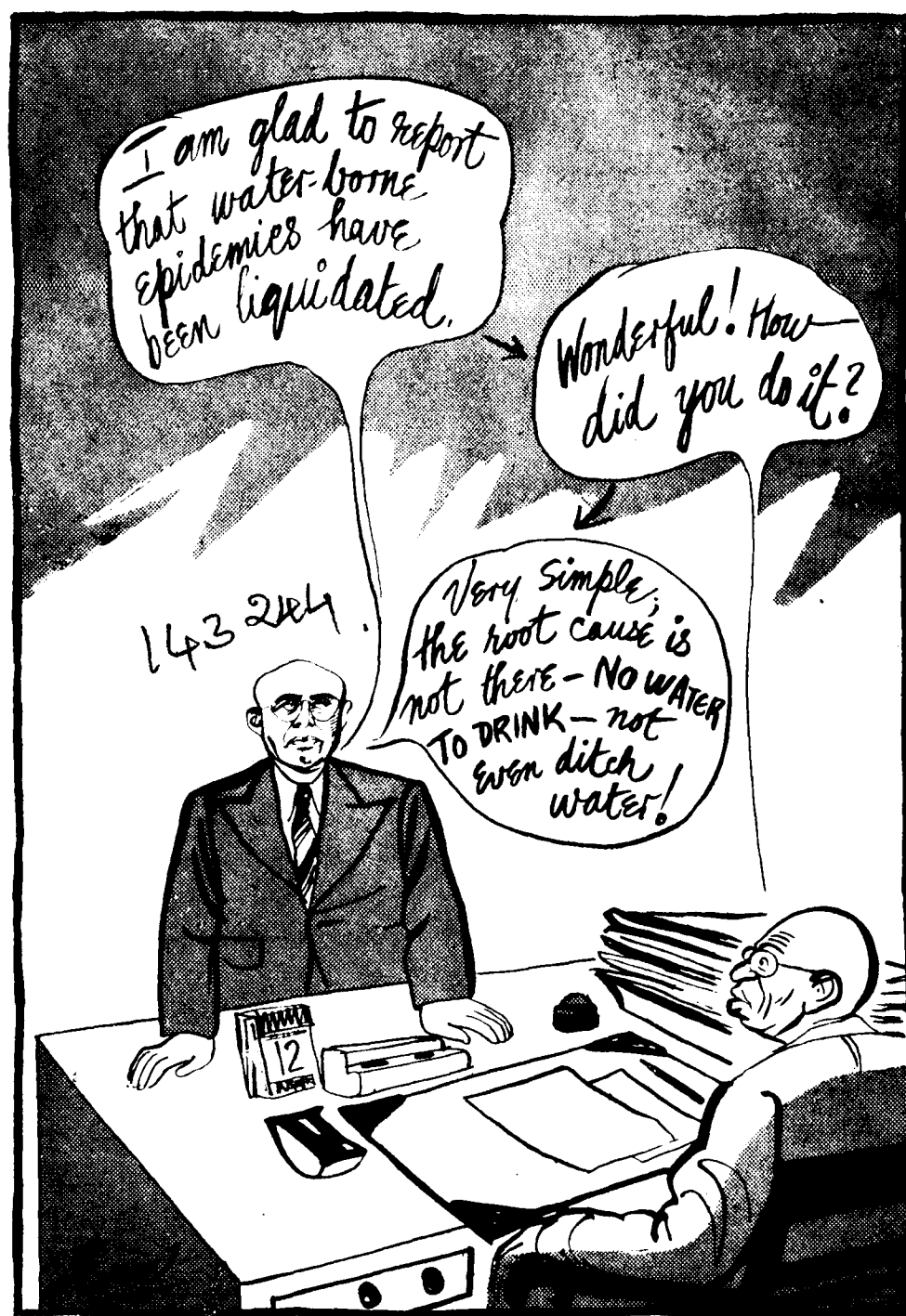


YOUR POPULAR BEVERAGE

A HOUSEHOLD NAME

NQZ-10

Nature IS Merciful !!!



Drinking water is so scarce in certain parts of Madras State that it is sold at four annas, or more per pot.—News Item,



Vol. V No. 7

APRIL, 1951

Issued Monthly

## EDITORIAL . . .

"Having practised medicine for about 40 years I can say, that 99% of the cures effected were in spite of the doctors. Doctors can be dispensed with but not the ancillary staff such as sanitary engineers, who devote their attention on the more important work yielding permanent results by securing proper environment which would prevent epidemics and diseases."

—Dr. Sir A. L. Mudaliar.

### COURAGE OF CONVICTION

Many of our top-ranking leaders, though convinced of the soundness of a proposition, have not the courage of their conviction to express views publicly. We congratulate Dr. Sir A. L. Mudaliar on having spoken out his mind without fear or favour at a recent meeting of the Rotary Club, Madras. Unfortunately, his speech did not receive the publicity it deserved. In the brief extract which appeared in a Madras Daily, the most important and courageous pronouncement has been omitted. It is sad.

The term 'health' is being used increasingly, as a cover to advance commercial and other vested interests. Early in 1950 what is known as "Health Information Foundation" was established. It is a project supported by a number of pharmaceutical manufacturers. The "Foundation" admits it has a two-fold task aimed at improving the health of the United States. It collects facts about the existing health facilities and distri-

butes information based on their analysis. Naturally, the organization has enormous financial and other support from vested interests.

More and more of newer and newer wonder drugs are being dumped in the market. In their turn, newer and newer unheard-of diseases are brought into being. Thus, the vicious circle is getting wider and wider.

Medical men who have vested interests in disease talk of the health of the people and canvass public opinion to extend their tentacles throughout the length and breadth of the country. We fail to understand what the medical men have to do with the health of the people. Their interests are centred in curing diseases and distributing drugs on a wider scale. Our public health medical experts, in the name of prevention, are interested in the spread of diseases. An instance to the point is the recommendation of the Director of Public Health, Madras,

on the Administration Report of the Madras City, that the Infectious Diseases Hospital in the City should be extended so as to afford facilities for admitting more patients. A well known public health expert of England recently stated that "the ultimate goal of the medical officer of health is to make himself unnecessary." Here, our public health medical experts are trying to entrench themselves safely and securely for all time to come. What a difference in aim! Our preventive health experts are as much interested as the curative medical experts, to see that more and more monuments are reared as a confession of their weakness. As Lord Wavell put it in December 1944, even the best and the largest hospitals are to some extent a confession of our weakness that we have failed to control public health at the source.

The simple question is which should take priority. The term health has been defined by the World Health Organization in its Charter:—

### NICOTINE, NO MATINEE

Since the day Sir Walter Raleigh's servant tried to extinguish what he believed to be his master's beard in flames, tobacco has been smoked by countless millions of human beings, not to speak of the many playful whiffs enjoyed by performing chimpanzees. Nicotine has given undescrivable moments of bliss to smokers; an unmistakable aroma, so familiar in bachelors' rooms, to curtains and shirt fronts; and a tidy sum into the national exchequer every year by way of tax. But this is the first time we hear of

"Health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity."

The Director-General of the World Health Organization has stated:

"No permanent advances in the general health programme can rest upon a substructure of poor sanitation. Any improvement in the disposal of excreta, in the protection of drinking water, in the destruction of the fly and the mosquito brings health and social advantage to man, woman and child".

Quite a long time ago, we understood that the Headquarters at New Delhi for the WHO, South-East Asia, had imported an expert on environmental sanitation. We repeatedly enquired about the activities of the specialist. Nothing has been heard. Such is the interest evinced by our health experts in rearing a substructure of sound sanitation over which the nation's health could be built!

smoking being decided bad for health and therefore prohibited within closed auditoria. No less informed a body than the Madras State Legislature has resolved on this subject. A perusal of the proceedings shows us that the gift of being able to talk with tongues in their cheeks is not peculiar to our popular ministers; it is the legislators' prerogative as well. Their glib discussion on the matter of the prohibition of smoking within cinema halls reflects ill on their knowledge on what they made bold to discuss. The vici-

ousness of many of our so-called *vices* have always been exaggerated just as the virtues of abstinence have been boosted. To assert that smoking is harmful to health is not merely a courageous but a wrong thing to say. Competent investigators have opined that persistent—not habitual—smoking of *inferior qualities* of tobacco over *long periods* is likely to affect the *throats* of smokers. That being so, for M.L.As to talk of smoking being 'baleful' or 'harmful' or 'ethically and morally reprehensible' is going a bit too far, though not farther than where these half-baked politicians' views need to be sent.

Positive dangers are definitely there—in the atmosphere of crowded and closed houses. The dangers are from airborne infections and transmissible diseases of the respiratory tract. These include whooping cough, measles, mumps, smallpox, chickenpox, diphtheria, influenza, tuberculosis, and non-specific conditions such as acute-tonsillitis and probably common cold. These risks to health should be eliminated by scientific ventilation applicable to our climate. No M.L.A. seems to be aware of these obvious dangers to public health. What is required is the determination of the standards of ventilation which should be adopted in these places of public resort, and a stricter enforcement of those standards in practice. Instead of remedying the obvious defects, smoking is prohibited. Till recently, one of the delights of life

on earth was to spend an afternoon in a theatre with a packet of good fags to smoke. One did not even think of ventilation or the general fustiness of the place.

It is a question of time before some thingummy feels that children are likely to get *afraid* in the dark and the legislature, through his persuasion, resolves, that lights should be on during cinema shows 'in the interest of the children'. After all, the object is: to miss the main issue and go chasing after a harmless point in a sidetrack! Verily, the recent legislation is a typical case of fighting the shadow leaving the substance alone.

If the legislation was passed to protect the *health* of cinemagoers, the *Minister of Health* should have shouldered the responsibility of piloting it through the Houses of Legislature. On the other hand, if it was just to satisfy the sentiments of the puritans among us, we know where we are in our Independent India. But when a reference was made to *health* in the course of the debate, the *Law Minister* who was in charge of the Bill, should have revealed the opinion of the health experts of the State if such opinion had been obtained at all beforehand. Had he done so, it would have helped the public to assess properly the opinions of the health experts of the State and their sense of values.

Why strain a gnat and swallow a camel?

# AN ADDRESS TO ENGINEERS

by

M. S. Thirumale Iyengar

*Chief Engineer, Highways and Thungabhadra Project*



IT appears to have become a custom for every Association to have an inaugural address and a valedictory address. Specially the Associations attached to Universities and Colleges have invariably these annual ceremonies, and custom has almost made these uninteresting and a matter of routine. Still, to the final year students of an Engineering College at least, this event is of great significance, as they are leaving the portals of the College to face the world and embark on life's journey. I am sure each one of you is living the student's life in its fullness and in its joys. But difficulties arise on your departure from College and when you enter upon new duties and a career. The success or failure in your life's start depends upon the attitude of mind that has been encouraged while at College. If you worked merely to get through examinations and to possess a degree; or if a mere diploma has been your sole aim and object, you will, perhaps, heave a sigh of relief and plunge yourselves into enjoyment and pleasure, because you have bid good-bye to the exacting and strenuous studies and specially to the "burning of the mid-night oil" which renders one lean, pale and leaden eyed, as some of you are looking today on the eve of your examinations. Also, you will perhaps throw away all your books and all thoughts of systematic work.

## Develop a Thirst for Knowledge

On the other hand, if your habit during the four years of your college life has been one of a feeling that there is much to be learnt and if you have imbibed in yourself the lesson that a colleague course is but the beginning of student life, then there is every hope that you will be able to undertake a useful life's journey on leaving the college. For, remember the teacher ceases to influence you or prepare you. You have to think for yourself and act. A trial awaits you after parting from the teachers. Whilst in College, you must therefore cultivate a strong natural propensity for study. Only then, you will not feel it an effort or a mental strain to take to books and study later. Next, faculty of observation is one of the most essential traits that every one of you should cultivate during your student life in the College. During that period, you must always keep a note book and pencil with you to make a record of what you actually see in the field of engineering, no matter how trivial or simple it may appear to be. I am sure you have passed along the roads several times where a cement-concrete pavement, or an asphalt surfacing or a water-bound macadam renewal or patch repair work or forming berms or various other operations pertaining to road, building or bridge construction and maintenance, have been in progress. How many of you have

stopped and tried to understand the why and how of such things and what labour and equipment are employed and made a note for future study or reference or even as a matter of curiosity? How many of you, going along the City or town streets, have paused for a while on the wayside to see any building under construction and spent a few minutes to get a general picture and idea of the structure, the how, why and wherefore of such constructions and made a note of them? How many of you can say what type of architecture the Senate house represents or the old Revenue Board buildings pass for? How many of you have had the curiosity of looking at the bowstring girder bridge across the Coom on the Marina road through technical eyes? Do you realise that all this is education in the field of engineering which you have chosen or choosing as your vocation? You must therefore develop the faculty of observation and with a tenacity of purpose, record all impressions and study. And, do not forget that a large portion of the work of the student should be in the laboratory and on construction works.

I will, in one word, call all this as "Inquisitiveness".

I am laying emphasis on this aspect of your education because I find in actual experience the boys that pass out of the college—many of them—cannot visualise the thrill that the profession gives at the start of their career. Many of them seem to belong to the type that heaves a sigh of relief at the close of the college study only to throw away their books, study and the knowledge they may have gained. Some are willing to work only if they are posted to where their parents live, some want to work only in places where you have hotels, restaurants and cinemas. Others want to be posted to places where you have tennis and other games that can be played in the evenings. But the real engineer whose outlook during the college course has been one of observation, study and keenness to learn and enlarge his knowledge and who has spent time in laboratories and on the practical side of

things to the maximum extent he could, within the limitations of his college life, will not think in terms of personal comforts and inclinations. He will find thrill in the work he is asked to do. He seeks to find whatever place he is posted to, comfortable, convenient and adjustable in so far as his personal inclinations go. Take the investigation for a road to Sri Sailam in the Nallamalais. The active and keen boy looks forward to the thrill such work has—working in the fresh and pure air in the hills, enjoying the scenic grandeur of the hills and forests. Through exhaustive sweat and persistent and relentless efforts, he will carve out in the virgin wilderness a trail which is to become historic, traversing one of the finest and the most scenic grandeur. He will have the satisfaction that he has done something in the development of the region that is still undeveloped. The greatest reward that one can look forward to is the satisfaction of having done a good job of what he is asked to. That should be the attitude of your minds towards work.

## Don't Be Perturbed

The other great and essential trait that you should cultivate from the very beginning is "imperturbability" which is coolness and presence of mind under all circumstances. If you develop this characteristic, your success in life is assured. Remember it is not immobility. Immobile tendencies should be curbed. You must be active and energetic while maintaining a balanced head and a calm in the face of a storm. The combination of this with the faculty of observation and study on which I laid great emphasis earlier, will stand you in good stead in your career through life and above all, it will give you courage to face difficulties and a confidence in yourself, so essential for success in all your endeavours. Disappointments or failures will not also make any deep impressions as to affect the life's course itself.

## Develop Initiative

Yet another trait that you should develop is initiative. In our profession it

is the initiative that counts. Whatever branch of engineering it is, we must have this valuable characteristic to arrive at quick decisions, to solve problems and to get round unexpected troubles and situations.

Thus the three "i's" that you, as an engineer, must possess are, inquisitiveness, imperturbability and initiative, and the 'I' that you should avoid is the 'I' of the egotist.

### The Man in You

I think I have said enough to appetise the "engineer" in you, but this will not be complete without a reference to the "man" in you. Many technical graduates leave college with the most limited views of men and things. While the engineer may possess strong character, sound judgment, thorough knowledge of work, he will be a failure if he lacks liberal views and outlook and all characteristics that a liberal education gives. He must not think that besides the technical responsibility, he has no other to answer for. The engineering profession has social responsibilities. The engineer must not lose sight of his social obligations. I will not explain them at any great length but will just make a passing mention.

You must maintain good health to serve the community and the country.

You must obey the laws and regulations of the community amidst which you happen to live.

You must fulfil the duties of a citizen—civil responsibilities and the like.

You must establish religious habits and environments that give spiritual satisfaction.

### Loyalty

You must give the utmost satisfaction in work and fidelity to your employer.

Social responsibility to the profession lies in your binding yourselves, i.e. all engineers together to render maximum service to society and co-operate generously with each other. You would then show

your fellowman that you have a regard for his sensibilities and susceptibilities. Your work all the while lies amidst the people of the country and region. Social contact is thus very essential for improving the environments.

Let me now say a word about Research. We are a poor country in the matter of manufacture or acquisition of machinery. It is with the use of machinery that other countries have been able to make considerable progress in developing the net work or grid of roads. It is not correct that we should spend enormous amounts on obtaining advanced machinery from other countries. We may obtain the minimum required and supplement it with the vast store of man-power we have and get on for some time until we are able to find out in our own way as quickly as possible, what is best for us. We must therefore get intensively research-minded. We must do research and evolve, for example, a binder to the road surface that will serve equally well or better than the bitumen that we are extensively using, importing it from outside India. We must research into the locally available materials and make the best use of them for our roads to meet the modern traffic needs. Here the subject of Soil Mechanics gives you an insight into the properties of the locally available materials and by a judicious combination of soils, gives you a trouble-free and durable road for our rural roads and other highways. The stabilised soil can be used for surface as well as for the base and thus avoid use of stones transported from long distances at enormous cost.

### Be Research-Minded

My advice therefore to you is that you should get intensively research-minded and apply your minds to evolving new products and methods to improve our position in regard to machinery and materials for extensive road construction and bridging activities we have undertaken. For, it has often been said that the history of civilisation of a country is in a way the story of the development of modes of communications. A new means of quick

travel by air or of communication by wire or wireless brought in its wake perceptible changes in the social and economic spheres.

So all plans to increase the amenities of life must be preceded by the most essential of them all, the road. You may grow millions of tons of food grains, you may manufacture all the most desirable kinds of luxuries and the other consumer goods but all these can reach the people only by transportation through a net work of roads. We are now seriously engaged in developing these modes of communication forming specially a net work of rural roads that will connect all villages of over 500 population, improved surfacing to existing roads, new metalling and modernising the existing highways in various other aspects.

### The Work Ahead

Thus, you have work before you if you want to remain a Highway Engineer. There is work awaiting you even if you want to work in the other fields of Engineering. I believe the Engineering College gives you the basic knowledge in all the branches. And there is so much in common between the various branches. All of our work is based on the same fundamental natural laws and all of it demands the same logical approach. The type of approach to the design of a bridge is the same as for the design of a spill-way gate or multi-storey building. A mistaken notion exists that the Highway Engineer is only fit for making roads and will not be suitable for irrigation works. This is an erroneous one. Take the case of a Road Project and an Irrigation Canal Project. In the road, there is traffic flow while in a canal there is water flow, and in navigation canals there is also traffic flow over the water-flow. In the Road Project there are bridges over streams, sub-ways and viaducts while the corresponding works on the Canal are aqueducts, super-passages, under-tunnels and syphons—both branches re-

quiring a knowledge of theory of structures, hydrology, hydrography and hydraulics. The similarity is obvious to one who has been investigating and executing both road and irrigation canal projects. So, to the young engineer who is passing out of the College, I say this: Do not have the feeling that the prospects of an eventful and prosperous career in the future are not bright. When I recall to mind the days of my graduation, many, and in fact the rest of my classmates expressed the same depressing attitude to the future. Except myself, none of them joined the P.W.D. They went out of the State to be appointed as Assistant Engineers in the Railways and in Upper India and in Burma. Some have become Chief Engineers and Managers of leading Contracting Firms and of Railways. That showed how little foundation there was for those fears and apprehensions. I now say that no such fear or apprehension need haunt you. We cannot stagnate or remain stationary. There must be progress—Progress all the time. In thinking of the future for the engineer, there is no need to forget those constructive activities with which all are familiar—the building of dams, bridges, roads, irrigation canals, hydro-electric works, water supply and drainage schemes. These are all the many things of today and of the future. These are bound to grow and expand in the search for solving the food problem and for raising the standard of living of the people. And these will ever be there as at every moment we are confronted with the growth of population. Thus the prospects of the profession seem to be great. But life will be hard and exacting. There is every possibility and nay, certainty that you will be underpaid and overworked. You may even have very little time for study and less for recreation. But these are, in my opinion, necessary hard knocks "that will give finer temper to your steel and that will bring out the nobler elements in your character".

The foregoing valedictory address was delivered to the Highway Engineering Association of the College of Engineering, Guindy, Madras, on 14th March, 1951.

## YES, THOSE CRITICAL 2½ HOURS

Dr. S. Kamesam, Hon. D.Sc., B.E.,  
M.E., (Hons.) M.I.E. (Ind.), F.A.Sc.  
*Chairman, Hydro-Dietetic Paradise Valley, Bangalore.*



**Y**ES, in these uncertain days, it is those critical 2½ hours in a day that make all the difference to man's health and happiness. They are the catalysts or vitamins of life; converting "existence" into "living". At first sight, that a mere 10% of man's life-time can make or mar life appears to be a tall claim. How can such a short period, in a day, change the very complexion of life, from black to white? This statement becomes all the more puzzling when it is realised that these hours are at present just running to waste—as if nobody wanted or worried about them.

In a budget, is it not the mere 10% extra, that we allot for books, vacations and amusements, that make all the difference, and contribute so much to our *joie de vivre*? When we were boys, was it not the pocket money of a few annas or cents every week that gave us so much happiness? All the rest, including the affection of our parents, brothers and sisters, was taken as a matter of course, with no reactions of any particular pleasant nature?

It is strange that these 2½ hours are composed of an hour and a half at the start of the day, when we "take off" for the day's work, and an hour at the end of the working day, when our "plane" lands on the Land of Nod. Yet, they seem to be as vital to the safety and comfort of the day, and requiring as much skill and plan

to pilot them as during the few minutes of "take off" and "landing" of an aeroplane. Let us examine the design of the "run-ways" for "taking off" and "landing" every working day.

### Mind-Body Utilisation

In life, there are certain chores, daily chores, which have to be performed, day in and day out. Included in these, are working for one's living, eating, drinking, sleeping, dressing, bathing, shaving, going to and returning from work etc. They are an integrated "must" for existing, and little galvanising is possible for making it "shine" with life. It cannot be denied that, in a few cases, men do derive a lot of pleasure from work, but the average man cannot presume that he does. Barring exceptional occasions, when one perhaps gets dainty titbits or specially tasty or stimulating drinks, the average daily food leaves no reactions, particularly pleasant or unpleasant. Life goes on, day in and day out, starting with the day's ablutions, including bathing, shaving etc., then breakfast, dressing and going to work (working from 10 to 5 with the usual head-aches and heart-aches of A serving under B, and A dealing with C, D, E & F) coming home, going to club or for a short walk, reading the daily newspaper, hearing the radio, dinner and the usual arguments in the family. Such a life is just plain hum-drum,

Yes, Those Critical 2½ Hours

273

and seldom gives any particular zest to life. It does not form part of an integrated programme for living with one's own self—our mind. It makes men often wonder "What is the object of life, living like a blind-folded ox going round and round an oil-pressing mill? The same routine every day". This is so principally, because it does not offer food to the mind, and "man does not live by bread alone". The vitamins of mental nutrition cannot be obtained through pills. Some may find a weak escape, sometimes, by going to a cinema or having a drink. These do not solve the main problem. They only by-pass, and create new problems. The average man gets no answer for himself or from others as to what he is living for. This position scarcely improves if his physical or nervous health is usually not even 60% perfect, with denaturalised and biologically hungry food and high speed living. He plods on, round and round in circles, grinding out his mental, nervous and moral grist in a groove (going deeper every day) till he retires, or just "drops out" of life. When, and if he retires, the bandage is removed, he just stares into a huge vacuum of the best 8 or 10 hours in the day, and usually dies of ennui. He opens his eyes to a new world in which he is a superfluity. He has no mental garden to plough. An ox, blind-folded all its life, when its bandage is removed, feels completely lost. There is no more a groove to go round in. The ox depended for his centre-piece on an external feature—of some one, over whom he had no control, supplying the oilseed. The centre-piece of life should be not vocational work but a planned mental cultivation programme—for mind and body—for 2½ hours in a day. Let us explain what this mind-body utilization is. It is as simple as it is vital. You can start from tomorrow and try it out.

### Typical Working Day

Let us follow a typical working day which includes the "taking off" and "landing" programme. You get up at about 5 o'clock. 5-30 to 7 is your time. There should be no boss over you to dictate as to how you should spend this time. Mark this

green on your time piece dial. You lose yourself in yourself, according to your own plan. After cleaning your teeth, drink two glasses of cold water as fast as you can. This, followed by toilet, should not take you more than 20 to 30 minutes. You are ready at 5-30 for the "taking off" programme. You start with a few deep breaths—for five minutes—with the abdominal diaphragm going up and down like bellows. This helps the body to oxygenate or vitalise. After this, you may perform any of the simple trunk bending and twisting exercises that you like best, for ten minutes. Finish these exercises by rolling over hard ground, stretching your body to full length. As long as you pleasantly strain all the large organs of the body by bending and twisting, and then relax it is ample. Planned stretching of the spine and neck, to keep them supple, is important. After this, with a dry, rough towel, (like a Turkish bath towel) rub your body with gentle pressure. The tips of fingers and toes should have a supplementary rub. This should be followed by a bath, pouring water over the body. The bath should consist of alternate throwing of hot and cold water on your body for ten minutes finishing with two or three vessels of really cold water. This will take you ten minutes. You are now ready for some mental concentration of an invigorating or stimulating type—not philosophy or fiction but books of inspiration to be of real service to others, how to get on with people, on developing executive and other abilities and similar subjects. Endeavour to make a blue print of your own for living, and not for a living. Half an hour of this will suffice. This mental concentration exercise may be followed by 15 minutes of reading some kind of imaginative poetry, books on health etc. Then, five minutes of self-reflection as to the main highway of your progress, what life means to you, what it is giving you, what you are doing, to build up a healthy outlook on life, the parallelism between your ideals and actions etc., will lead you to the last 10 minutes of the morning programme, planning for the day's work, sorting out work for the day with no hurry, forgetting the items

for the morrow and the day after. Ten deep breaths at the end will tune you up for the day's tasks. You have completed 1½ hours of preparation for the day. With this morning's mental and physical preparation, whenever you have time for a little leisure during the course of the day, you will, without effort, find your mind thinking on constructive lines. It tends to go back to morning's thoughts, instead of hankering after materialistic pleasures or feeling self-sympathy, or indulging in fruitless worries. If possible, you should spend the dawn, on a terrace or in a garden, where you should take advantage of hearing the birds sing, and details of foliage, etc., breaking out of the dark silhouettes of night.

#### Shadows 'Say' So Much

You carry on your usual programme of the day (work, club, evening walk) till 9 p.m. when you have a spare hour before going to sleep. During the time before you rush off to work and especially at and before dinner, you should plan to give time and mix with other men and women, although the highest priority is to spend at least an hour every day with one's family in joyous conversation. During the evenings when there is moonlight, do not fail to look at the half-tone shadows of trees and branches over the ground. Moonlight shadows "say" so much because they do not speak. Then, read some philosophical work for half an hour. Epictetus, Marcus Aurelius, Emerson's essays, proverbs of the World, Confucius, Tagore and others will be suitable. On alternate days, read short fables (Aesop's, Indian, Russian, etc.). Ponder over the day's happenings in the context of what you have read. All the reading material should be of a sedative nature. After this, relax completely, sip a glass of warm water, and sleep at about 10. Have no regrets, whatever, for anything that has happened, because "tomorrow is another day". It is all yours. Realise that happiness or otherwise is not external, but depends entirely on your own reaction to external events, and you should, and can always control your reactions, absolutely irrespective of

external objects or events. If possible, be by yourself during this last hour of the working day.

#### Refreshing Bath

If you have worked very hard, physically or mentally, during the day, take a full-tub sedative bath, immersing your body to the neck in water at 98°F for not less than 15 minutes in a quiet atmosphere, in a room, with green distempered walls if possible. Both temperature and the duration of the bath are important details. The bath may be taken at 7-30 p.m. After the bath, have a very light meal. After the age of 50, taking no food at all after the evening tea, is the best. You will not regret it, as there can, then, be no chance of any flatulence, or its serious or even fatal effects during the night. Most cases of heart failure of men, even with strong hearts in the night or during early morning, can be traced to a heavy or rich night meal. I know personally some who have not taken any dinner at all for years, and feel all the better for it.

#### Practical Advice

I have written this, not based on any set formulae or advice given in books, but on what I have actually practised for some years, and found to be highly beneficial. There may be slight differences of opinion as to how exactly you may spend these crucial 2½ hours. Bearing in mind certain fundamental principles will make all the difference to your perspective on life. Begin the day with vitality and vigour (reading of a stimulating character), and end it quietly and sedatively. Look forward to these 2½ hours, dwell freely in the landscape garden of your mind, aerate and water it. You will change "mere existence" into "dynamic living". Make these 2½ hours your centre-piece. They are yours for life. They may give you no money, but all the priceless gifts which money cannot buy and which millionaire would envy will be in your lap. They will save you from doctors, drugs and "nerves". Mental sedatives leave no unpleasant reactions.

I am deliberately referring to the effect of the vacuum that stares man after his retirement not so much to show what a **prime donna** part these 8 hours of daily work—work in a predetermined groove for earning man's living—a daily "must"—have played for the best 30 to 35 years of one's life. They have changed the very focal length of man's mental vision. They have produced intellectual and psychological astigmatism. No correctives for such astigmatism have been applied. Therefore, it is seen what a false centre-piece is vocational work, round which all the daily activities of which the best part of a whole life are usually built up. Consciously and sub-consciously man has made work—work, not in which he has genuine or "living interest", but work for a living, his altar, mounting all his Gods on it. Nervous breakdowns, which are increasingly evident today, all over the world among working people, and the feeling of frustration that deeply colours their outlook have set up a chain reaction which is a real menace to the world. It is more fatal than a thousand atom bombs. The world is suffering from a lack of mental and spiritual nutrition and compass.

#### The Secret Of It

Is there a remedy for this state of things? If so, what is it? Obviously, the remedy cannot be a new antibiotic, however potent the latest one may be. It lies, as is the case with all priceless things in

life, right in yourself. The secret is in how you use the first 1½ hours after waking up, and the last one hour before sleeping every day. The first thing to be done is to replace the centre-piece of vocational work with these 2½ hours work, **while you are still young**. Locate vocational work in the marginal frame along with all the other daily chores, like bathing, shaving etc. The vitamins of mental and spiritual nutrition hold the key to a properly integrated life. These are not sold like pills in bottles. These do not fall from heaven like manna. They have to be secreted by your brain and soul, based on thinking, reading and digesting philosophical truths. Blue-print your ideas for the development and maintenance of your mental and spiritual garden. Fit up and open the landscape windows of your mind on your private garden. Stroll in your mental garden during the first 1½ hours of your waking day along the flowers of spiritual, mental and physical quickening, regeneration and stimulation. Make the last hour of the waking day a period of spiritual and mental stock-taking, review, and tranquil resolve. Then, let sleep take charge of you, repairing and regenerating your tissues, mental and physical. Get up from sleep, more and more in harmony with the birds which break into song at dawn. It is possible for you to get up in the morning and sing just as joyously and spontaneously as carefree birds. Make the effort. Tra la!

#### REGIMEN FOR HEALTH

He who would take good care of his health should be sparing in his tastes, banish his worries, temper his desires, restrain his emotions, take good care of his vital force, spare his words regard lightly success and failure, ignore sorrows and difficulties, drive away foolish ambitions, avoid great likes and dislikes, calm his vision and his hearing, and be faithful in his internal regimen. How can one have sickness if he does not tire his spirits and worry his soul? Therefore he who would nourish his nature should eat only when he is hungry and not fill himself with food, and he should drink only when he is thirsty and not fill himself with too much drink. He should eat little and between long intervals and not too much and too constantly. He should aim at being a little hungry when well-filled, and being a little well-filled when hungry. Being well-filled hurts the lungs and being hungry hurts the flow of vital energy.

—Chinese Book On Food

(Written by an Imperial physician at the Mongol Court in 1330).

(From 'The Importance of Living' by Lin Yutang.)

# THE BUILDING OF THE NATION'S HEALTH

by

K. C. K. E. Raja

Director General of Health Services, Government of India.



This year the Dr. Sir A. Lakshmanaswami Mudaliar Memorial Lectures were delivered by Dr. Raja under the auspices of the University of Madras on the 12th, 13th and 14th March 1951. We understand that, in due course, these lectures will be printed in the University Journal and made available in pamphlet form to readers. In the meanwhile, we publish a fairly elaborate summary of each of the three lectures in *People's Health* for the benefit of our readers. What is printed hereunder is the second of the series.

The first one appeared in the March 1951, issue of *People's Health*.

—Ed. P.H.

THE building of our national super-structure of health has two aspects. One is the short-term aspect, which emphasises the need to bring down, as early as possible, the prevailing high rates of morbidity and mortality in the country through measures which must perforce take note of our limitations in trained personnel and funds, especially as these deficiencies are no doubt likely to continue for some time to come. It was in relation to these facts that the plea was put forward yesterday that we must concentrate on preventive health work and that, in the promotion of the preventive campaign, we must bring into the national health organisation an increasingly large number of non-medical ancillary staff, who can be produced more quickly and at a cheaper cost than doctors and whose maintenance would also be less expensive. It is not intended to minimise in any way the importance of medical men in the health organisation. They must, indeed, form the

key personnel both from the standpoint of performing certain essential functions which they alone can do and from that of carrying out adequate supervision over the work of the ancillary staff in order to ensure that the necessary standards of efficiency are maintained. Our available resources in men and materials are limited, particularly at the present time and in the immediate future, and a planned programme of action is necessary in order to permit of the proper allocation of the available funds to the expansion of treatment facilities and to the enlargement of preventive health work respectively. This programme should cover a specified period, say five to seven years. It is only in the light of such a plan that reasonably correct estimates of training facilities for the required personnel, medical and other, can be made. If the past five years are viewed in retrospect, it will be recognised that a number of developments has been attempted by the Central and State Governments.

What has been lacking is, however, the coherence of an integrated plan which helps to weld together these different developments and to give them a meaning and a purpose. An instance may be quoted. In pursuance of a recommendation of the Bhoré Committee, the Central Government established in 1946, in association with State Governments (Part A States), an overseas medical training programme in accordance with which a certain number of candidates was selected and sent abroad in 1946, 1947 and 1948 respectively. When the scheme started, high hopes were held that national health development would proceed apace and that those who came back after training would be given suitable opportunities for work. On the other hand, these hopes did not materialise and the result has been increasing difficulty to provide the candidates with suitable jobs on return. In some cases it has not been possible to find places for them and, in others, the value of the specialised types of training that had been given was lost by their being put back to their old routine duties. A number of new medical colleges has come into being during the past few years and, when they are fully developed and begin to take in the optimum number of about 100 admissions per year, the present position in regard to the absorption of new graduates into the health services of the country, which is by no means satisfactory, will become aggravated. The programme of development which I envisage will provide for an agreed expansion of health services over a specified period of years in terms of which the training of doctors and other health personnel as well as their employment will be regulated. Such a programme will require much more co-ordination of effort between the Centre and the States than that which exists at present as well as the allocation of the necessary funds for these developments over the whole period covered by them. On the other hand the position today is that, with the vagaries of annual budgets, the amount of money made available differs widely from year to year and that, with the detailed control regarding expenditure exercised by the Ministries of Finance over the activities of the Adminis-

trative Ministries of Government, so much time is lost that appreciable portions of even the allotted money often lapse at the end of the year.

## Long Term Planning

National health planning has also another aspect, namely, the long-term issues that are involved. In this connection it may be of advantage to enquire what the objects are that the more progressive countries have placed before themselves in regard to the organisation of their national health services. A conception that has received general acceptance in the formulation of national health programmes is that the medical care made available to the individual should be in relation to his needs and not in relation to his capacity to pay for it. Thus the Beveridge Report recommended that a complete medical service, domiciliary and institutional, in which all the facilities necessary for the treatment of disease and for its prevention, should be provided for the British people and the National Health Service, which came into being in July 1948, is intended to achieve this purpose in an increasing measure as the scheme expands and the range of ministrations under it develops adequately in the coming years. The medical care given to the people is free and the cost is met partly from the funds of a national social insurance scheme and partly by local bodies and by the Central exchequer.

## Australian Health Policy

In Australia the Commonwealth Government set forth, a few years ago, their national health policy in the following terms:—

"For the people are necessary:—

"The knowledge that they may, as their right, expect from the Government such medical and hospital services as they really need without the humiliation of proving their financial status, or the bitterness of accepting charity; the knowledge that the breadwinner will not have to face a crippling bill for hospital and medical services if he or any member of his family, suffers a prolonged illness."

### Soviet Principles

In Soviet Russia the principles on which the organisation of health services are based has been described by Professor Sigerist in the following words:—

"Health is one of the goods of life to which man has a right; wherever this concept prevails the logical sequence is to make all measures for the protection and restoration of health accessible to all, free of charge; medicine like education is then no longer a trade, it becomes a public function of the State."

In Russia more than in any other country the health organisation has been developed as a co-ordinated scheme of curative and preventive medical services so designed as to promote the care of the individual from the time of conception through pregnancy, confinement, infancy, the pre-school age, the school-going period and all the later stages of life till senescence and death. The achievement of the Soviet Union in the field of health within a comparatively short period has been so great and so remarkable that I shall have reason to refer to it again at a later stage.

### Canada's National Insurance Scheme

In Canada a national insurance scheme constitutes the basis for the provision of adequate health protection to the people, the Federal Government giving grants to the Provinces to assist them in the organisation and maintenance of the necessary health services.

In New Zealand there exists a Social Security Act which provides, among other things, a free and adequate medical service to all people.

### U.S.A's Concern

In the United States the organisation of health services under the auspices of government has not developed to the same extent as in England or Russia and provision for the lower income sections of the population is definitely less. But the need for adopting a comprehensive programme of action in the field of health and for

formulating a new economic bill of rights has been recognised. In one of his messages to the Congress, President Truman said:—

"In the past, the benefits of modern medical science have not been enjoyed by our citizens with any degree of equality. Nor are they today. Nor will they be in the future unless government is bold enough to do something about it."

"People with low or moderate incomes do not get the same medical attention as those with high incomes. The poor have more sickness, but they get less medical care. People who live in rural areas do not get the same amount or quality of medical attention as those who live in our cities."

"Our new economic bill of rights should mean health security for all, regardless of residence, station, or race everywhere in the United States."

"We should resolve now that the health of this Nation is a national concern; that financial barriers in the way of attaining health shall be removed; that the health of all its citizens deserves the help of all the Nation."

It will be seen that a common factor in these national health programmes is the desire to provide the citizen, irrespective of his ability to pay for it, with the medical care he requires for the restoration of his health and for its maintenance. Can we in India be satisfied with a lower objective as a long-term measure, however backward our present conditions may be? In the interests of promoting the health and welfare of the individual, of improving his working capacity and of enabling him to live a fuller and richer life we cannot agree to a lower ideal. But, in working towards that ideal, we shall have to traverse a long and arduous path and to develop and utilise to the full all the resources available to us.

### Bhore Committee's Plan

We may now turn to the consideration of the Bhore Committee's plan which,

although it does not provide for a health service of the ideal type, goes a long way to bring health protection of a reasonably high standard as close as possible to our people and particularly to that large section which lives in the rural areas. I have no doubt that most of the members of this audience are to some extent acquainted with the recommendations of that Committee. But, in order to give a clearer picture, I believe it will be of advantage to give a brief description of the short-term and long-term plans of the Committee.

The Committee has taken the administrative district as the basis for the development of health services and has described the district health organisation in the following words:—

"The district health organisation will have as its smallest unit of administration the primary unit, which will normally serve an area with a population of about 10,000 to 20,000. A number of such primary units (about 15 to 25) will together constitute a secondary unit and a varying number of the latter (about 3 to 5) will form the district health unit, the designation by which the district health organisation will be known. At each of the headquarters of the district, secondary and primary units will be established a Health Centre as a focal point from which the different types of health activity will radiate into the territory covered by each type of unit. The District Health Centre will possess general and special hospitals with a total bed strength of about 2,500 and all the consultant and laboratory services required for the diagnosis and treatment of disease on up-to-date lines. The administrative staff of the district health organisation will be located here and will exercise supervision over the district as a whole. Similarly, the Secondary Health Centre will be provided with hospital accommodation of about 650 beds and with equipment and other facilities on a generous scale, although not up to the standard of the District Health Centre. The administrative staff of the secondary unit will be attached to the Secondary Health Centre and will exercise supervision and control over the primary units includ-

ed in it. The Primary Health Centre will have a 75-bed hospital and health administration over the area included in the primary unit will radiate from this Centre."

This represents the ultimate stage of the district health organisation when the Committee's long-term programme, probably requiring 30 to 40 years, is completed. At the start inadequacy of trained staff and of funds will necessitate the development of the plan on more modest lines and the Committee has put forward a short-term programme which has been worked out in some detail for two successive stages of five years. A primary unit under the short-term programme will serve a population of 40,000 as against 10,000—20,000 when the long-term scheme is completed. The staff, equipment and number and variety of medical institutions will all be on a limited scale during the early years but the health plan has an organic unity which ensures continuity of development, its successive stages of expansion helping to promote the range and effectiveness of the services made available to the people. In addition to general health services for the community as a whole, detailed suggestions have been put forward for organising adequate measures for the protection of special groups such as mothers and children, the schoolgoing population and industrial workers as well as for controlling the incidence and spread of certain diseases which are widely prevalent in the country, e.g., malaria, tuberculosis, leprosy, venereal diseases, small-pox, cholera and plague.

### Essential Conditions for Success

For the successful working of the health programme one essential condition is that provision should be made for enabling (a) representatives of the people to participate, at the different levels of health administration, in the shaping of health policy and (b) representatives of the medical, nursing and other professions to tender advice to the health authorities in matters relating to the organisation and control of the health services. For the former the Bhore Committee has suggested the crea-

tion of Central, Provincial and District Health Boards. The members of the first will be the Ministers of Health of the Central and Provincial Governments, of the second the Provincial Minister of Health and representatives of local health authorities and of the District Health Board representatives of the people of the district. Similarly, Health Councils have also been proposed for the Centre, Province and District, which will be responsible for advising the health authorities concerned on all matters relating to health services.

The Bhoré Committee's health scheme, when implemented, will bring health services close to the inhabitants of both rural and urban areas and will provide those facilities for the diagnosis and treatment of disease and for preventive care which modern medicine has made available to mankind. An emphasis on the combination of preventive and curative work in such a manner as to enable each to supplement the other and on an integration of health work in the homes of the people with the more specialised services, which will be provided at a number of medical institutions of varying types and sizes distributed all over the country, constitutes a special feature of the scheme. It has been stressed that the aim should be to ensure that the health protection given to the individual should be in relation to his needs and not to his ability to pay for it. It has also been stressed that a radical improvement of the environment in which the community lives will be necessary before a measurable advance in the standard of the public health can be achieved. To quote the words of the Committee "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." Further, it has been pointed out that the national health programme should be considered as part of the wider problem of social security and that the task of building the nation's health would be fulfilled adequately only by a simultaneous advance on many fronts to improve the standard of life of the people. The Committee therefore stressed the need for developing

its health plan and the plans of other post-war reconstruction committees simultaneously in selected areas.

#### Further Points for Planning Health

Certain other matters which are important from the standpoint of national health planning may also be discussed. It is obviously impossible to deal with the wide range of subjects which can appropriately be considered in this connection. I shall refer only to the following; (a) the problem of rural health, (b) the indigenous systems of medicine, (c) the training of health personnel, (d) restriction or prohibition of private practice by medical officers in public service, and (e) the indigenous production of drugs and medical appliances.

**Rural health.** The problem of rural health has at least two aspects, (a) an extension of health services into the rural areas on an adequate scale as quickly as possible, and (b) a re-organisation of community life in order to improve the standard of living of the people and to promote an enrichment of their life through the development of social and cultural activities.

The rural population has suffered, in the past, from inadequacy of health services to an even greater extent than the people living in cities and towns. One of the difficulties in connection with an extension of such services into the rural areas has been the unwillingness of doctors and other health workers to devote themselves to work in the rural areas. Some of the causes responsible for this state of affairs have already been mentioned and, in the absence of a marked improvement in living conditions, special incentives will have to be offered to promote the flow of health personnel to the villages. In this connection it may not be out of place to indicate briefly some of the measures adopted in Russia towards this purpose. In that country:—

(1) Rural doctors are paid about 10 to 20 per cent higher salaries than those serving in towns and cities. Doctors posted to inhospitable areas such as the Arctic

Region or the mountain villages of Central Asia get still higher salaries.

(2) A period of training in a rural medical centre is part of every medical student's education. This rule brings thousands of young medical men and women every year to the rural districts.

(3) Rural medical centres are supplied with X-ray, microscope and other equipment for the practice of scientific medicine and the young doctor sent to the rural area does not therefore suffer from the feeling of frustration which a man gets when, after his training in well-equipped college hospitals, he is sent to a primitive and undeveloped institution in the country.

(4) Side by side with these measures there has been a systematic attempt to improve amenities in the villages in the Soviet Union. A typical Russian village has today a club, a library, a stadium, a radio, weekly lectures, theatrical performances and other recreational facilities. The Russian village is often a collective farm.

It is for consideration whether India should not adopt these and other suitable methods to make service in rural areas more popular than it is at present. Lasting results will be obtained only as the result of a planned programme of rural development designed to establish improved living conditions in the villages. In discussing this matter I speak with diffidence because I realise that I have little or no background of the necessary qualifications or experience. If I therefore put forward certain ideas for consideration my only excuse is that they are intended to stimulate thought among those who are more competent than I am to deal with such a subject.

#### Rural Health

Any scheme of rural development should take note, in my opinion, of certain essential matters. In the first place the stimulus that promotes a continuous process of improvement of community life must spring from the people themselves. The long-continued prevalence of adverse socio-economic conditions and a high incidence

of sickness among the rural population have contributed to create a spirit of passive acceptance of existing evils as inevitable. This spirit of apathy must be overcome and, in attempting to do so, the most satisfactory approach is perhaps that of promoting active participation by the people themselves in the formulation and development of the local health and other ameliorative programmes. It is considered that measures designed towards this end should aim at bringing self-government right down to the level of individual villages, with reasonable safeguards to prevent an undue fall in administrative efficiency, as well as at the promotion of the co-operative movement on the widest possible basis so as to develop the idea of self-help and to integrate community life into a concerted effort to improve the standard of living. The development of multi-functional co-operative societies should help to pave the way for the canalisation of common effort in the socio-economic field into desirable channels and for the promotion of a spirit of co-operation, which is the best antidote against the prevailing attitude of apathy and helplessness among the rural population. The Bhoré Committee has suggested the establishment of a health committee in every village consisting of five to seven members according to the size of the village and the conferment of specific duties on each member of the Committee in order to secure his active support and, through him, of other villagers. Towards the improvement of village sanitation much can be done if provision can be made, through legislation, to mobilise the services of all able-bodied persons in the village for a specified number of days free of cost and to utilise those services for such common purposes as the removal of rank vegetation, cleansing and repair of common sources of water supply, minor anti-malaria works like the filling of ditches and pools and improvement of rural communications. In the State of Uttar Pradesh a recent enactment for the establishment of Panchayats in every village with a population of 2,000 and over has made provision for such compulsory mobilisation of rural labour. In that

State another experiment which is in progress is the appointment, for a group of villages, of a village worker who is trained to carry out a variety of health and other duties. Naturally such a person cannot attain to any high degree of technical ability in the different aspects of his work. But, provided he has had some training in community social work, is enthusiastic and sincere and is able to help the people with advice and guidance, he can assist them in course of time to improve their own standards of life. The problems created by lack of organisation in village life, by illiteracy and ignorance are so great that a supreme effort will be required if any appreciable progress is to be achieved within a measurable period of time. It is for serious consideration whether the services of students from the colleges and the upper classes of schools cannot be utilised for rural work during a part of their vacations. What is required in all such matters is that relatively small scale experiments within selected areas should be carried out with adequate attention to details. It is only in this way that the difficulties that are likely to be encountered will be brought out, cheap and effective methods of administrative procedure will be worked out, the reactions of the people to the innovations that are introduced will be recognised and the extent of the success achieved will be correctly assessed. Enthusiasm and a spirit of service on the part of the workers in such experimental schemes are essential; equally important is the true scientific approach in planning the schemes, their execution and the assessment of their value.

#### Scattered Rural Population—A Handicap

Another point for consideration in regard to rural development is the extremely scattered nature of the rural population. At the 1941 census, there were in undivided India 655,892 villages with a total population of 339.3 millions. The population of nearly 70 per cent of these villages was less than 500. Corresponding figures for the Indian Union are not known but the proportion of villages with populations

under 500 is not likely to be far different. With such a small number of inhabitants, the provision of social services and amenities in individual villages becomes well nigh impossible. Some process of integration of villages so as to bring together larger groups of people will have to take place as an essential part of the rural development programme. With agriculture as the main industry of the country, it is doubtful whether such integration can take place unless the present system of small scale cultivation is replaced by farming on a much broader basis either on the co-operative principle or in terms of state farming. It is perhaps only a co-ordinated programme of large scale agriculture coupled with an associated development of cottage industries on an extensive basis that can bring economic prosperity to the preponderantly large rural section of our population. It is for consideration whether some of the industries which are now located under crowded conditions in large cities cannot be decentralised to some extent and distributed over wider stretches of territory in the rural areas or whether at least similar future industrial developments cannot be treated in this manner. The Bhoré Committee did raise this question. Their words may be quoted (Vol. II, page 131):

"We commend for serious consideration the suggestion that, where possible, having regard of course to the relevant economic factors, new industries should be dispersed in rural areas so that local inhabitants may derive the fullest benefit from industries being brought within their immediate circle. The present system of establishing factories near or in big towns, where the workers are forced to live in crowded tenements and under artificial and insanitary conditions as part of a huge machine is harmful alike to the town dwellers and the workers themselves. The health problems of workers in such industries would be greatly simplified if industrial establishments could be located in rural surroundings." Apart from these advantages there is the special benefit that the economic status of the rural population will tend to be raised to an appreciable degree.

#### The Indigenous Versus Modern Medicine

The formulation of a rational policy in relation to the indigenous systems of medicine is of great importance to the country. In this connection it is necessary to remember that, within the past two or three decades, a number of State governments have established or supported by grants Schools or Colleges of Indian Medicine which have attempted to teach side by side modern medicine and Ayurveda or Unani and that these Governments have also supported hospitals and dispensaries manned either by those who passed out from such institutions or by practitioners who have had their training only in Ayurveda or Unani. The insistence on increasing governmental support to indigenous systems of medicine has grown after the partition of the country and the transfer of power from Great Britain to India. The emphasis of support has also tended to pass from Unani to Ayurveda. In the case of some well-wishers of these systems there is the genuine feeling that Ayurveda represents a rich heritage of medical knowledge which should not be permitted to decay and that, if it is enriched with the discoveries and practices of modern science, it would be able to surpass the achievements of modern medicine. Many, including the Chopra Committee, held the view that a synthesis of modern medicine with the indigenous systems is possible and desirable and a way to achieve this synthesis has been put forward by that Committee, which includes broad-based research into the indigenous systems and the continuance, with some modifications, of the system of teaching now prevalent in the Ayurvedic or Unani Colleges already mentioned. The latest contributions to the subject are a series of recommendations made by a Conference of Health Ministers in August–September 1950, which will perpetuate the present system of teaching, side by side, both modern medicine and Ayurveda or Unani in the Colleges concerned. There is also the decision of the Employees State Insurance Corporation that, in the organisation of medical services for workers, provision of facilities for

medical aid under the Ayurvedic, Unani and Homoeopathic systems should be made in addition to that under modern medicine, wherever there is a demand for medical service under those other systems. It is against this background of developments that the question should be viewed.

Certain things stand out for consideration. It is undoubtedly necessary to save all that is useful and of proved value in the indigenous systems and to make such knowledge available to all mankind. For this the methods of modern science will have to be used for promoting research. At the same time it is difficult to accept the assumption that there can be a number of systems of medicine and that it is desirable to develop and maintain these different systems as part of the national health organisation. Nor is it possible to accept that the present method of teaching in existing Ayurvedic or Unani Medical Colleges is satisfactory. Even the Chopra Committee agrees that a reconciliation of existing concepts in modern medicine and in indigenous systems is necessary in many directions. In the circumstances the present method of offering simultaneously to students, in teaching Physiology, Pathology and other subjects, two sets of ideas based on the Panchabhuta and Tridosha theories as well as on the ideas of modern medicine is far from satisfactory even in relation to the fundamental concepts of education. Where maturer and better trained minds have not yet been able to harmonise and integrate conflicting ideas, it is wrong to make younger people with much less training and experience to go through the task of absorbing both types of conceptions. As essential purpose of education is to draw out the faculties of the individual, to enable him to reason for himself and thus to equip him not only with technical knowledge and skill but also with the capacity to adjust himself to the requirements of changing conditions, which may often be of an unexpected nature, as and when they arise owing to the vicissitudes of life. This purpose will undoubtedly be defeated by the present type of education in Ayurvedic and Unani Medical Colleges. The recommendations of the last Confer-

ence of Health Ministers will tend to perpetuate this system of teaching; the only advantage is that the Conference has suggested the adoption of higher standards of training in the various subjects of modern medicine than those which are prevalent at present. The Chopra Committee has pointed out that numerous accretions of doubtful value have accumulated through the centuries in the indigenous systems and one of the purposes of the programme of research the Committee has recommended is to rid these systems of such accretions. Therefore, from the point of view of securing this end and from that of reconciling, as far as may be possible, ideas of a conflicting nature, the first requisite is to organise and carry out, on as broad and scientific a basis as possible, research into these systems. Synthesis is, to my mind, the bringing together of knowledge of proved value from all sources into one system of medicine. This will, in actual practice, tend to become, in my opinion, the incorporation of whatever can be saved from the indigenous systems into modern medicine. For this purpose research should extend into all aspects of the indigenous systems, including their principles, practices and drugs. I do not intend to convey the impression that modern medicine is perfect. It may well be that a contribution to be made available by our ancient system of Ayurveda may help towards a clearer definition of health and disease than has yet been achieved by modern medicine; this is the view held by some of the foremost protagonists of Ayurveda who are also qualified in modern medicine. But such claims must be justified by appropriate investigation and actual demonstration and this is one of the purposes of the proposed research. If these claims are established, the acceptance and incorporation of the ideas and principles into modern medicine will follow as a matter of course.

In the meantime I should deprecate the present tendency to run teaching institutions in Ayurveda and Unani on the lines of existing colleges and to establish and maintain public hospitals and dispensaries based on these systems. The reasons

against the maintenance of such Colleges have already been stated. As regards institutions for medical relief, the plea is often put forward that the indigenous systems offer medical aid of reasonable quality at much cheaper rates than modern medicine. Cheapness should not, in my opinion, be judged solely in terms of the value of drugs. It may well be that, because India has a wide range of medicinal plants, the drugs of Indian Medicine may prove to be cheaper than the imported drugs of modern medicine. But, with the coming into existence of antibiotics, sulpha and other synthetic drugs, medicines of high potency against all the major infections widely prevalent in India are available. These infections include malaria, tuberculosis, venereal diseases, leprosy, cholera, small-pox, plague and pneumonia. By the use of such medicines the course of these diseases can be cut short tremendously and this fact should be taken into consideration in deciding the balance of advantages in respect of modern medicine as against the others. The fact that medical practitioners who have passed out from the existing Ayurvedic and Unani Colleges as well as other who have had training only in these systems are demanding that they should be permitted to use freely antibiotics and synthetic drugs is itself testimony of an incontrovertible nature regarding their value. In the circumstances it seems to me that there is every justification for asking that the national health services should be developed on the basis of modern medicine. Let us remember that Ayurveda and Unani at least as they are practised at present, offer little help in regard to surgery, obstetrics and gynaecology as well as the wide field of successful preventive health work which modern medicine has developed. It is not therefore correct that, with only very limited funds available for the expansion of health services, Governments should fritter away those funds on the maintenance of a number of systems of medicine. In regard to certain sections of our national health organisation, for instance, the medical services for our armed forces, the replacement of modern

medicine by the indigenous systems will have the most disastrous results. Personally I feel that it is equally so in respect of the health services to be developed for workers under the Employees State Insurance Act. The purpose of the scheme should be to ensure that the period of absence from duty of a worker owing to illness should be cut short as much as possible. In this way industry will be helped and the financial stability of the insurance scheme for workers, who receive also cash payments during periods of sickness, will be ensured. The offering of medical aid under a multiplicity of systems, particularly to a body of persons who are educationally backward and are therefore ill-equipped to pick and choose for themselves, can hardly be called a commendable act. Its effect on the working of the proposed system of insured medical service is bound to be of an adverse nature, even apart from the many administrative difficulties which it will develop.

What has happened in the past is that modern medicine has not had a chance to prove its worth. The number of institutions under that system has been far too few to reach into the outer regions of our extensive rural areas. Further, the staffing and equipment of these institutions has been, in many cases, on such a meagre scale as to court unsatisfactory results as an inevitable consequence. A third factor is that the doctors, instead of being paid adequately and prohibited from taking up private practice were in most cases given insufficient scales of pay and encouraged to supplement their income through private practice. The result has been that the poor, who require proportionately greater medical attention than the rich, have been neglected to a large extent. These facts are reflected in the position regarding public expenditure on medical relief and preventive health work to which the Bhole Committee drew attention in its report. In 1944-45 the total expenditure on medical and public health departments together ranged in individual provinces from 2.5 per cent to 7.3 per cent of total provincial expenditure in each case or, expressed in terms of per capita cost, the

amounts varied from 2.8 annas to 10.9 annas. In the earlier years of British rule in India the amounts spent must have been much less. The cumulative effect of such niggardly low rates of expenditure on the provision of health services to the people over many decades is reflected in the fact that modern medicine was not given a chance to make an impression regarding its real value on the minds of the people and particularly of those living in rural areas.

### Constructive Suggestions

In the light of these discussions, the following suggestions are put forward:—

(a) Research into the indigenous systems should be developed on as wide a basis as possible. Such research must use freely the tools of modern science. Whatever may be shown to be of value in the way of principles, practices or drugs should be incorporated into modern medicine and thus a synthesis of useful knowledge from different sources into a single system of medicine should be developed.

(b) The utility of continuing the present system of education so as to combine simultaneously the teaching of Ayurveda or Unani with modern medicine is doubtful. In certain respects such teaching is, as has already been explained, of a harmful nature. Apart from this, the curriculum for the undergraduate student of modern medicine is itself so heavy that it is wrong to compress into five years, as has been suggested by the Health Ministers' Conference, a large amount of additional material in the way of Ayurveda or Unani. If a synthesis of useful knowledge from all sources can be brought about on the lines indicated, the curriculum for the future medical student will contain whatever is useful in Ayurveda and Unani. The attainment of this objective may take time but, provided research into the indigenous systems is pursued sedulously, the goal should be capable of being reached within a reasonable period. In the meantime it seems to me wrong that the present system of education prevalent in the newer Ayurvedic and Unani Colleges should be per-

JL  
L15 0021/147 PE

mitted to continue. If it be argued that, under a democratic form of society, it would not be correct to shut out freedom for the individual to carry on such lines of study as he may desire to pursue, I feel that the best method of meeting the situation will be to make provision for the study of Ayurveda and Unani as subjects for postgraduate medical education. This will mean that every medical practitioner must first qualify himself in modern medicine and then take to the study of indigenous systems. In this way India can assure herself that those who are permitted to practise medicine in this country will have secured such standards of medical training as are deemed necessary by all the progressive countries of the world. If India is to participate effectively in international health work and to benefit by such participation, this requirement of a complete course in modern medicine for her doctors is eminently desirable and even necessary. By making Ayurveda and Unani subjects for postgraduate study, the grave defects to which I have drawn attention in the present methods of training will be avoided. Provision for postgraduate study in Ayurveda and Unani will obviously confine itself to these systems.

(c) Governments should take the decision that modern medicine will form the basis of our national health services. It is recognised that, even if my suggestion to close down existing Ayurvedic and Unani Colleges is accepted, there will remain in the country a relatively large number of doctors who passed out in the past from such Colleges. The Chopra Committee has estimated their number to be in the neighbourhood of 4,000. In the State of Uttar Pradesh, the experiment has already been tried of giving such practitioners a few weeks' training in preventive health work and in utilising their services for extending health protection to the people of the rural areas. This procedure may with advantage be adopted in other States also.

(d) It is essential to control medical practice in the interests of preventing quackery. For this purpose, registration of all medical practitioners, whatever system

they may be following, should be enforced on an appointed day and, thereafter, practice by unregistered persons should be prohibited. The registers that are maintained should be separate for different systems; those who held recognised qualifications in their respective systems and those who come into the register only in virtue of continued practice of the profession for the prescribed period of years should be shown separately. After the appointed day, only those who qualify themselves in modern medicine should be eligible for registration. Even so, there will remain, at least for a generation, reasonable numbers of practitioners of the different systems to meet the demands of those members of the public who desire medical aid under any of these systems.

(e) In order to promote a uniform policy throughout the country, appropriate legislative and administrative action should be undertaken.

The views I have expressed are, to some extent, different from those held by Governments and those embodied in the resolutions of the Third Health Ministers' Conference. I made it clear at the beginning of this series of lectures that the opinions I propose to put forward are entirely my own and should not be interpreted as the views of the Government under whom I am serving. I am repeating this in order that there may not be any room for doubt.

#### The training of health personnel

I have already referred to the importance, at the present stage of development of our national health organisation, of adequate emphasis being laid on the training of non-medical personnel. Apart from this, there are numerous questions which come up for consideration in connection with a professional education programme for the country. In speaking on this subject, I realise my own deficiencies. My experience in this field has been short and of a very limited nature, namely, for a period of about three and a half years in teaching Epidemiology and Statistics to the D.P.H. students at the All-India Institute

of Hygiene and Public Health at Calcutta. Secondly, in speaking to an audience such as this, I recognise that there are many persons with wide experience of medical education and that I may be putting forward immature ideas to a body of men with a much sounder background of knowledge and practical experience. I therefore hope that my views will be judged with some measure of indulgence.

In the first place let me recall that I stressed the importance of preparing adequately the doctor of the future for both curative and preventive duties and of giving him a community outlook in regard to the problems of health and disease. The Bhore Committee considered that, for this purpose, every medical college should have, as an integral part of it, rural and urban health organisations which will serve the dual purpose of enabling the students to participate, as part of their training, in preventive and remedial health activities as well as of helping the staff to organise studies into community health problems. The quality of the teaching given to the students will tend to improve as the result of such research activities; further, it is good for the students to grow up in an atmosphere of research. With the help of the United Nations Children's Emergency Fund, the Government of India is proposing to develop the present section of Maternity and Child Welfare at the All-India Institute of Hygiene and Public Health at Calcutta into a Maternal and Child Care Training Centre, which is intended to serve the needs of Asian countries as a whole. In connection with this scheme, the existing rural health organisation of the Hygiene Institute, which is located at Singur some 20 miles away, will be expanded and an urban health organisation will be created by taking over a portion of Calcutta Corporation covering a population of 200,000. In these two urban and rural centres, sufficient facilities will be developed to enable the students to participate in actual health administration, including the work of such specialised agencies as tuberculosis and venereal diseases clinics, the maternity and child welfare organisation and that which is concerned with the

control of the more common epidemic diseases. If the facilities can be expanded adequately, it should be possible to give, as apart from the students of the Hygiene Institute, at least some opportunities for participation in such field experience to undergraduate medical students and to the candidates for training as public health nurses, health visitors and midwives in Calcutta area. It is eminently desirable to establish similar rural and urban health organisations in association with at least one medical college in each State and to work out a programme of instruction to the students.

Another point for consideration in connection with our training programme is the medium of instruction. Obviously nurses, midwives, health visitors and health inspectors will normally work, after training, in their own linguistic areas and insistence on the attainment of a knowledge of English up to the standard now required in respect of most of these workers will prove more an impediment than a help towards the realisation of a large scale training programme, if that be our objective. Indeed, an experienced medical educationist, Dr. V. R. Khanolkar, holds that the mother-tongue should be the medium of instruction even to undergraduate medical students. He feels that, without the free use of the mother-tongue to put across ideas to the student, he or she, while repeating what has been said in English, often fails to understand and assimilate fully what has been taught. In regard to doctors, they will undoubtedly cross, in larger numbers than other types of health personnel, linguistic boundaries and, until Hindi becomes universally adopted, it is clear that English will remain the common medium of communication throughout India. Moreover, English is fast becoming the language of the world as a whole and, particularly for those medical men who desire to devote themselves to research, teaching and the higher branches of professional work and health administration, contact with the outer world is eminently desirable. English appears therefore to be the language of choice at least for the medical student. It may be mentioned in

this connection that the medical college of Osmania University in Hyderabad, which used to have its teaching in Urdu, has now turned over to English. Even in those days in which Urdu was the official medium of instruction, the students used to make free use of English text-books in all subjects. In any case, even with English as the recognised medium of instruction, it seems desirable to permit of a free use of the mother-tongue to explain fully to students matters which they otherwise fail to comprehend adequately. The main purpose of training is to turn out people who are competent to do their jobs and this purpose will be met only if they fully understand and assimilate what they are taught.

We have proceeded on the assumption that relatively large scale training programmes are necessary, particularly in respect of non-medical personnel, although recent events in this State such as the turning over of a number of pupil nurses to other parts of the country brings to focus the very limited powers of expansion that present-day plans provide. We shall return to this subject at the next lecture.

#### Regulation or prohibition of private practice by Government medical officers

This is a subject of great complexity. In the past the tradition has been in all parts of India to pay medical officers lower scales of salary than those granted to the members of the administrative and judicial branches of government service. A reason for this is, I believe, that doctors are permitted private practice. If this be so, when the privilege of private practice is withheld as in the case of those in the public health department or in certain posts in the medical department, the compensation granted in lieu of private practice should bring the total emoluments near those of the more favoured services mentioned above; but this does not happen. The disparity becomes all the greater when it is remembered that the medical graduate has to undergo a rigorous course of training for five years after passing the Intermediate examination, has

then to take up house appointments for a year in a hospital and later do further specialisation if he is to get a reasonable chance of entry into government service either on the public health or medical side. In the circumstances, prohibition of private practice must carry with it the implication that the doctor is given a reasonable scale of emoluments, which will make him feel contented. In view of the wide differences in scales of pay in different parts of the country, it is by no means easy to suggest common standards. At the same time, the reasons for developing a full-time salaried service with prohibition of private practice are strong. The Bhore Committee came to the conclusion, after a detailed study of the question, that, if a reasonably good rural health service is to be developed for the benefit of the poorer sections of the community in particular, prohibition of private practice and the grant of adequate emoluments are essential. In regard to medical education, if the suggestions that I have put forward for promoting research by the staff of medical colleges as well as better teaching, prohibition or a considerable restriction of private practice for those in the clinical departments of medical colleges is essential. It is desirable to have for each department such as Medicine, Surgery or Obstetrics and Gynaecology a full-time Professor and Assistant Professor with a certain number of resident staff and demonstrators who are all prohibited private practice. It is only in this way that adequate time and opportunity for promoting teaching and research on sound lines will become available. If the services of competent men are to be secured and retained they will have to be paid adequately. As has already been pointed out, it is difficult to lay down any uniform standards of payment. If for any reason complete prohibition of practice is considered difficult, the institution of "Pay clinics" should be attempted. According to this system, the doctors of the different departments will be prevented from taking up freely private patients. On certain afternoons in the week, there will be clinics conducted by the staff of each department. The booking of cases for

such clinics will be made through the hospital authority. A schedule of payments for individual types of medical service for diagnostic or treatment purposes, which is approved by Government, will be followed. Fees will be collected by the hospital authority and the total amount will be distributed between Government and the different members of the staff on a scale approved by Government.

From the point of view of the wealthier sections of the community, such a system is of advantage. The teaching staff of medical colleges and the available facilities for diagnosis and treatment are usually of a higher standard than in other institutions. Therefore, if it is possible to secure the benefit of such services on reasonable rates of payment, it is of distinct advantage to the public. In the larger State capitals, where a prosperous independent medical profession exists, patients are often being made to pay exorbitant charges for diagnostic and treatment services and any scheme by which such services are made available to the public at reasonable rates will naturally be welcome.

#### Indigenous production of drugs and medical appliances

The indigenous production of drugs and medical appliances with a view to making India self-sufficient as far as possible should be an important part of the country's health programme. Such diseases as malaria, tuberculosis, venereal diseases, dysentery and pneumonia can be fought successfully only if the production in India of the necessary remedies can be promoted on a sufficiently large scale and at a reasonable cost to meet the requirements of the country. A scheme for the production of penicillin, sulpha drugs and paludrine has been sanctioned and its implementation is under active consideration. It has also been proposed to start the

production of DDT. The initial plant may have a production capacity of about 750 tons per annum, the annual consumption of this insecticide being at present about 550 tons. It is intended that the plant should be so designed as to make it capable of producing 3,000 tons per annum with only an increase of 25 per cent of capital expenditure. These developments are undoubtedly to the good. But what is required is an integrated programme of production in which antibiotics, synthetic drugs and vitamins will all be included. Such a programme will distribute the centres of production of these articles over different parts of the country, the location of the necessary factories being determined partly by the availability of raw materials in the neighbourhood. The requirements of raw materials in respect of individual plants can be met, in some cases, from the byproducts of other plants so that the whole programme will be a co-ordinated scheme of development. A plan covering some of the more important pharmaceutical drugs and vitamins and costing about Rs. 25 crores has been drawn up by Dr. G. Sankaran and it is in the interests of the country that the scheme should be carefully considered and promoted without delay.

It is equally necessary to draw up a scheme of co-operative effort between the Central and State Governments on the one hand and between Governments and private enterprise on the other for the development of this programme. In regard to certain essential drugs and appliances, it is essential that governmental control should be provided in order to ensure proper quality and availability at reasonable prices. With adequate safeguards towards this end, the active co-operation of private industrialists with governments will be of great value for pressing forward with the scheme.

#### A TRUE DOCTOR

A true doctor first finds out the cause of the disease, and having found that out, he tries to cure it first by food. When food fails, then he prescribes medicine.

—Sun Ssemia (VI Century A.D.).

# REPORT OF THE ENVIRONMENTAL HYGIENE COMMITTEE HIGHLIGHTS AND SIDELIGHTS

By

A. V. Raman

This is the sixth of the series on the subject. This is in continuation of what appeared in *People's Health*, February 5, Vol. V, No. 5, at page 265.

In the March 1951 issue of the magazine the series could not be continued for want of space.

—Ed. P.H.

The first meeting of the committee took place on the 25th June, 1948. Dr. K. C. K. E. Raja inaugurated the proceedings. On that occasion, a message from His Excellency Sri C. Rajagopalachari, Governor-General of India, was read, as also the message from Hon. Rajkumari Amrit Kaur, Minister of Health. The Hon. Mr. A. B. Shetty, Minister of Health, Madras, sent a message to be read on the occasion. The message was dated 22nd June, 1948. It was addressed to the Secretary to Government of India, Health Services. It was not however transferred to the committee in time to be read on the occasion. His message runs as under:

Dear Sir:

The announcement of the constitution of a committee to go into the question of environmental hygiene has been welcomed in many quarters. There is always a great demand from cities and towns and also larger villages for the installation of water-supply and drainage schemes. In view of this, this Government appointed in June last year a committee on water-supply and drainage and the committee has given a report to Government making recommendations of far-reaching importance.

Sri A. V. Raman has taken a leading part in the deliberations of this committee and also in drawing up the report. I am glad to note that you have selected

him as a member of your committee also and I am sure his wide knowledge and experience of the problems connected with environmental hygiene will be of great help to your committee. As the provision of water-supply and drainage is of fundamental importance for improving the living conditions of the people, they ought to be given the first priority in any health development programme.

I trust the Central Government will give the right lead in this matter to the Provincial Governments and also render them all necessary help in the matter of funds, technical personnel and materials of construction so that they may go forward with a large programme of water-supply and drainage works.

Wishing success to the committee in its work,

Fort St. George,  
22nd June, 1948.

A. B. SHETTY.

The message of the Governor-General of India was but a conventional one. The full text of the message of the Minister of Health, Government of India, though read at the meeting, was not made available to the members of the committee. This is one of the few instances to show that there is something radically wrong with the Publicity Department of the Government of India. Matters relating to the health of the nation do not as a rule gain

full publicity. Even when publicized, the abstract is so meagre as to make it unintelligible to the ordinary man. This is by the way.

I returned to Madras on the afternoon of 3rd July, 1948 from New Delhi. All the time my mind was engaged to unravel the truth behind what I should regretfully characterise as the under-hand method adopted in nominating the Chairman of the Environmental Hygiene Committee. In the circumstances of the case, I can assert without any fear of contradiction that Dr. Jivraj Mehta had not been quite frank in the matter.

Naturally, on my return to Madras, I addressed letters to a few concerned in the matter, giving free, fearless and frank expression of my views which were surging in me all the time. Here are the letters I addressed on the 4th July, 1948. The first letter was addressed to Dr. Jivraj Mehta, which runs as follows:

My Dear Dr. Jivraj Mehta:

I returned to Madras last evening from New Delhi after attending the meeting of the Environmental Hygiene Committee, as also the conference of the Chairmen of the Improvement Trusts. Needless to add that I had a frightfully busy time of it all.

Your idea that the members of the Environmental Hygiene Committee should attend the conference of the Chairmen of the Improvement Trusts was indeed quite a happy one. The results have proved the usefulness of such a joint discussion. I shall not tire you with the details at present. Personally, I feel glad that it gave me opportunities to add to the usefulness of the discussion.

The immediate purpose of my troubling you in the midst of the very difficult time you are having in Baroda, is to bring to your notice certain difficulties and to seek your advice in the matter:

1. The appointment of Dr. DasGupta as the Chairman of the Environmental Hygiene Committee has caused consider-

able dissatisfaction among the engineer members of the committee. I poured oil on troubled waters and appealed successfully to my colleagues to render service in the larger interests of the country, notwithstanding the humiliation to which they feel they have been put. The feeling is that in an 'expert committee,' the non-expert, like Dr. DasGupta, should not have a place at all and much less as its chairman. The three days proceedings of the committee have demonstrated beyond doubt that he cannot lead the committee, nor can he be led by the other members of the committee. In discussing the questionnaire which I drafted, he could not follow, on several occasions, what we engineers had been discussing. Somehow, we managed to get business done, suppressing our personal feelings.

2. At the conference of the Chairmen of the Improvement Trusts, he could not be present on the ground that he had to attend to the selection of candidates as a member of some selection committee. Delicate situations arose at the conference, at least on two occasions; one was whether the members of this committee should vote on resolutions put to the house. I had to get up and tell the conference that they should not, as the very subjects under discussion, should be examined by this committee **independently**. The members could not under-write themselves by being parties to the resolutions of this conference, when they had not themselves arrived at conclusions on the several issues. One of the members told me that I should not have spoken on behalf of others without talking to them beforehand. I did not anticipate that we would be called upon to vote on resolutions and at the spur of the moment, I had to get up and explain the position. Eventually, of course, the objecting member agreed with me.

The second occasion was when certain members of the committee were nominated as members of the sub-committees of the conference to examine certain aspects of the problems before us. I had to tell Sir Arthur Dean, Chairman of the Confer-

ence, that some members of the committee, could not arrive at independent conclusions as members of other sub-committees, when the entire problem is expected to be reviewed by us after due investigation. I had no authority as member of the Environmental Hygiene Committee to put forward the view of the committee as a whole. Still, I had to do so, and the absence of the chairman of the committee was a serious handicap to progress.

3. We have listed out certain literature which should be obtained, pending the next meeting of the committee, to be studied and notes extracted from them for circulation to the members of the committee. As the subject is of a peculiarly technical character, it is only an 'expert' who can read through and cull out the relevant extracts to cover the terms of reference to the committee.

4. Again when the replies to the questionnaire are received, they have to be tabulated fully understanding the implications of the answers given. This is again a technical matter.

5. Further, the chairman of the committee, on his own initiative, will have to bring points for discussion at the meetings of the committee. As the chairman is not a technical expert by any means on the admittedly intricate technical problems, it is unreasonable to expect assistance from him in this respect.

I do not wish to add to the difficulties which are likely to confront us by the chairman of the committee being a non-technical person.

From the scope of the difficult work which lies ahead of the committee, it is clear its chairman should do a lot of reading of the literature available on the subject, and crystallise the ideas for the consideration of the committee. The chairman should therefore have both capacity to assimilate technical points and also time to do so.

Dr. DasGupta cannot be expected to do it, even if he feels that he is an expert

in the subject, in addition to his normal duties as Deputy Director-General of Health Services.

The situation is rather delicate. It has to be got over with dignity without impairing the prestige of the Ministry of Health. In my view, this can be done only by asking Dr. DasGupta to tender resignation of the chairmanship of the committee as his continuance would prejudicially affect his normal duties as Deputy Director-General of Health Services. His resignation would also have the advantage of reducing the number to five—an odd number. This would help the chairman of the committee not to exercise his privilege of a casting vote. The committee can divide, if division is required, into 3 and 2.

Over and above all these handicaps, there is a further handicap in the Secretary of the Committee also being a non-technical man. He has to perspire to condense the proceedings of the committee in some readable form, covering subjects of a technical character. So long as I was in New Delhi, the Secretary was in close touch with me and I did my best to put things in some order.

I am sorry I have to trouble you in this matter as the situation is extremely delicate. I should look up to you for advice. After all, the ultimate responsibility will rest on you for implementing the recommendations of this committee.

With kind regards and best wishes,

A. V. RAMAN.

The second letter addressed was to Dr. K. C. K. E. Raja, Director-General, Health Services, which runs as under:

My dear Raja:

You had not returned to New Delhi by the time I left there yesterday morning for Madras. It was just a couple of days before I left there, I saw P. M. Menon and ascertained from him that you would be back from your tour on Saturday or Sunday.

I had explained to you the practical working difficulties in having a non-expert

as the chairman of an expert committee. I felt bound to keep P. M. Menon also informed of my feelings as also those of my engineer colleagues in the committee. I suggested to him that some action should be taken to rectify matters in consultation with you. I am sure he will have a talk with you on the subject. Some decision should be arrived at before the next meeting of the committee can be held.

Two delicate situations arose at the conference of the Chairmen of the Improvement Trusts. One was whether or not the members of the Environmental Hygiene Committee should record their votes in favour of or against certain resolutions put before the house. I had to speak on behalf of the committee and state that we were expected to take part in the discussions and not record the votes as the very subject will have to be considered *de novo* by the committee and decisions arrived at. One of the members very rightly questioned my competency to talk on the subject without discussing the subject. I had to take up decision at the spur of the moment. Eventually of course all members agreed with the view I presented. Had the chairman been present at the meeting, it would have avoided this awkwardness.

The second delicate situation arose when Sir Arthur Dean nominated certain members of this committee as members of some other committees of the conference to put forward suggestions in respect of the very subjects covered by the terms of reference to this committee. I had to point out to him that these members would be put in an awkward situation, should they arrive at decisions independent of the other members of the committee. However Sir Arthur Dean left it to the members to serve on such committees or not. I have no doubt similar situations will arise in the course of proceedings of this committee. The even number of members of the committee also adds to the difficulties of the situation. The chairman may have to give his casting vote one way or the other, should a tie take place on any technical point.

It would be difficult for the non-expert chairman as also the non-expert Secretary to tabulate the replies to the questionnaire as they are received, and also cull out extracts of relevant portions from the literature which the committee wanted them to collect and to study.

As one who could appreciate the situation, I do not feel justified in writing more on the subject excepting to say that the work of the chairman of the committee would involve practically day to day work. It would be rather difficult for the official chairman to do justice to the responsibilities of his position. You asked me and you may now again ask me what my suggestions are to resolve the situation. I had the benefit of consulting our esteemed friends at high levels and their suggestion to me was that with dignity to the Ministry of Health, and without loss of prestige to them, Dr. DasGupta may be asked to tender his resignation of the chairmanship of the committee on the ground that it would be impossible for him to discharge his duties without prejudice to his normal work. Kindly think over the suggestion.

I have also written to Dr. Jivraj Mehta on the subject and sought his advice on the matter. I am sure he will write to you in due course.

I avoided an impasse even during the early stages by appealing to my colleagues' patriotism and sense of duty. I do not think that the engineer members of the committee would possibly put forth their best under the leadership of a non-engineer.

With kind regards and best wishes,

A. V. Raman.

The third was to Mr. M. V. Modak, a member of the committee, which runs as follows:

Dear Mr. Modak:

The Hon. Mr. A. B. Shetty, Minister of Health, Madras, at my request, promptly sent a few copies of the report of the Madras Water-supply and Drainage

Committee by Air Mail. By the time I received it, you had left the station; so I learnt from V. N. Rangaswami who called on me.

I have sent a copy to you with the compliments of the Minister of Health by separate packet post (ordinary post). I have no doubt you will acknowledge receipt to the Hon. Mr. A. B. Shetty, Minister of Health, Fort St. George, Madras-9, directly.

I have written to Dr. Jivraj Mehta all about our feelings in the matter. I have no doubt in my mind that he will give due consideration to what I have written and advise the Ministry of Health suitably.

So long as I was there, the Secretary of the Environmental Hygiene Committee was in close touch with me and I did my best to put things in order. A work which should be normally done by the chairman, had to be done by me. Before the next meeting of the committee, I expect a revision of orders; otherwise, it will be difficult for the committee to function efficiently. I find the Secretary, though willing, cannot possibly tabulate the answers to our questionnaire and cull out relevant extracts from the list of literature which we have asked him to collect in the meanwhile.

The afternoon session of the conference of the Chairmen of Improvement Trusts on the 30th, was a bit sensational. The Improvement Trusts wanted to acquire powers superseding the local authorities for whom they are supposed to act.

It fell to my lot to make a short, sharp and telling speech opposing it. The Chairman of your Improvement Committee ably supported the view point I presented. Eventually, I had a resolution drafted to pour oil on the troubled waters. That's that.

With kind regards and best wishes,

A. V. Raman.

And the fourth letter was addressed to Prof. K. Subramanyam, another member of the committee, which runs as under:

My dear Subramanyam:

It is a great pity that we had not the opportunity of having a quiet talk before we left the station. I arrived here last evening.

I have given expression to the feelings of the engineer-members of the committee in regard to the chairmanship of the committee, to Dr. Jivraj Mehta. I have put things fairly straight and explained how our work would be handicapped by a non-technical man being the chairman of the committee. I have no doubt in my mind that Dr. Jivraj Mehta would take note of what I say and give a proper lead to the Ministry of Health. Kindly keep our friend Mr. Bose informed of my action.

Please write to the Secretary to the committee, care of the Director-General of Health Services, suggesting the literature and other information which should be collected and send me a copy of your letter so that I may myself try and collect them with a view to studying them beforehand. You may remember that you said that you would yourself collect from your papers the relevant portions and send them on to me. Kindly do so if you can at your very early convenience.

A. V. Raman.

From the foregoing, it would be evident that the Ministry of Health, Government of India, was more interested in boosting one of their favourites rather than serving the interests of environmental hygiene, which have been recognised at all hands as the very foundation for the promotion and maintenance of the health of the nation.

## ACHIEVEMENT IN COMBATING MALARIA IN USSR

by

Prof. L. Oppenheim

**B**EFORE the revolution in Russia malaria was one of the most widespread infectious diseases; it was rampant in Transcaucasia, on the Black Sea coast, in Central Asia, in the Volga area and Central Russian provinces.

Progressive public-spirited physicians would organise expeditions to the districts where malaria raged to offer medical assistance to the population; they carried on research on problems of epidemiology and the prevention of malaria. However, in the face of the complete indifference on the part of the tsarist government to questions of public health all their work gave but negligible results.

### A Radical Change

It is only after the Great October Socialist Revolution that a radical turn took place in this field.

From the very beginning the Soviet government paid serious attention to this question and attributed much importance to its solution. By mobilizing for the fight against this evil the attention of all its social and scientific forces, and by allocating enormous funds the Soviet government achieved remarkable results within a very short space of time.

Already during the years of the foreign intervention and the Civil War the first Institute of Malaria, Medical Parasitology and Helminthology was founded. It became the scientific and methodical centre in the fight against malaria and for the training of malariologists. Later another ten institutes of the same type were organized in the Union republic and in the regions where malaria was most widespread.

### Extensive Sanitation Activities

In 1921 the first 8 anti-malaria stations were organized. At the beginning of the

Great Patriotic war their number was over a thousand. The anti-malaria stations and centres organized in cities, districts, collective farms, state farms, in the peat bogs, on railroads and waterways, in the very thick of the reservoirs of malaria infection serve as centres for the organized fight against it. They draw broad masses of working people into this work, they carry on extensive sanitation and educational activities and train bonificators and achrichinizers.

### Team Work

The work of the anti-malaria stations and of the specialists in that field: entomologists, hydrologists and hydrotechnicians is being guided by the research institutes in the republics. Besides, these institutes are working to find new methods and means for the treatment and prevention of malaria.

### Planned and Persistent Attack

The fight against malaria is planned by the State. All the anti-malaria work is guided and planned by a special Department for Combating Malaria under the Ministry of Public Health of the USSR. Not only the organs of the Ministry of Public Health are concerned with this work, but many other departments, industrial enterprises, collective farms, state farms, trade unions and other social organizations participate in it.

In the first years of Soviet power during the blockade organized by the imperialist states, the young Soviet republic could not obtain quinine the production of which was monopolised by a Dutch quinine concern. Soviet scientists were faced with the urgent problem of finding home made preparations for the treatment of malaria.

In 1931 the problem was solved. USSR is now provided with new and highly

effective preparations for the treatment of malaria: achrichinum which, as a cure, is superior to quinine, and plasmocide—also a very good means against malaria.

### New Medicine

Soviet chemists continued to work persistently on the perfection of the new anti-malaria preparations and in 1948 created a new medicine—bigumal—which proved to be an excellent means of treating and preventing tropical fever.

What are the specific methods of treating and combating malaria in the USSR?

First of all, in the USSR the population receives treatment and is supplied with anti-malaria preparations free of charge; furthermore, in the USSR the inhabitants of malaria infected districts are subject to thorough medical examinations for preventive purposes. Treatment is begun at the least sign of predisposition to the disease without waiting for the heavy attacks.

Soviet physicians do not limit themselves merely to stopping the attack of malaria, but do their utmost to cure their patient completely in the shortest time possible. In this respect a very important role is played by systematic treatment according to scientific methods.

In the USSR so-called social chemoprophylaxis or, in other words, preventive treatment is being practiced on a broad scale. Persons who had an attack of malaria in the early part of the year are systematically treated during the summer with plasmocide. This preparation kills those forms of the parasite which are transmitted to the mosquito. Specially trained achrichinizers distribute achrichi-

num tablets among the registered patients to prevent the recurring of the disease.

Measures for combating the vector of malaria—the Anopheles mosquito—are organized on an enormous scale in the USSR. Diverse means are used to accomplish this, among them flooding with petroleum oil, spraying and sprinkling the basins and other places where the mosquitoes breed, raising the gambusia—a fish that destroys the larvae of the mosquito.

The fascist barbarians destroyed all the hydrotechnical constructions and the anti-malaria institutions on the territory they temporarily occupied.

During the first five-year period all the damage done to the anti-malaria institutions was repaired and the number of malaria cases has been reduced by 2.5 times as compared with pre-war times.

### Creation of Healthy Living Conditions

The grand plan of remodelling nature which is so successfully being put into practice in the USSR—the huge shelter-belt plantations, the construction of ponds and reservoirs, the draining of swamps, the building of irrigation canals—all this is creating healthy living conditions which will once and for all do away with the sources of malaria infection. The black Sea Coast of Abkhazia where tropical fever was rampant before the Revolution has been transformed into an All-Union health resort and is completely freed of malaria. Such a "wretched hole" in the past as Mugan in Azerbaijan has been transformed by the efforts of Socialist society into a healthy and fertile district.

—TAAS.

### HOUSING AND DISEASE

The aetiological significance of bad housing conditions in different diseases is not easily ascertained. Poverty and inferior living quarters usually go hand in hand. Unhygienic habit is often the companion of depressed circumstances. Ignorance and fecklessness are commonly the parents of material impoverishment and squalor. But although the effects of bad housing cannot as a rule be separated entirely from the consequences of other aspects of poverty, there is good reason to believe that slumdom, overcrowding and grossly defective house structure contribute to a high incidence of some diseases.

—Fred Grundy, M.D.

## WHAT CAUSES PEPTIC ULCERS?

by

Dr. Trevor I. Williams

Deputy Editor of the Scientific Journal "Endeavour"

One of the greatest achievements of modern civilisation has been the conquest of many diseases—such as cholera, typhoid, and small-pox—which once took an immense toll of human life, yet all the changes in general health are not on the same side of the ledger. Although it has swept away most of the danger from many diseases which were once a serious menace, civilisation itself appears to have stimulated others which are of little consequence among primitive people.

Among the best known, but still comparatively little understood, of these diseases of civilisation is peptic ulcer. It is popularly believed that this complaint is in some way a consequence of the unnatural and hurried lives so many people now live, and is aggravated by worry. According to one authority "ulcer is a civilisation disorder and as the complexities of life increase, one may anticipate an even greater incidence".

Nevertheless, surprisingly little is known about the causes of the disease and whether it is really brought about by the increasing rush and stress of modern life. Yet it is sufficiently serious to warrant the most detailed study—the more so if its incidence is increasing—and, as a first step in this direction, an attempt has been made in Britain to collect some precise and reliable information about its causes and its relationship, if any, to the occupations of the victims.

The importance of this work is measured by the fact that approximately one per cent. of all deaths in England and Wales—a total of about 5,000 a year—are attributed to peptic ulcer. In addition, it is estimated that there are at this moment living in England and Wales no less than 1,500,000 men and women who have, or have had, peptic ulcers, the effects of which are measured in terms of pain, incapacity to work, and inability to enjoy normal food.

When it is considered that there is no evidence that the situation in Britain is any worse than in any other country with a high standard of civilisation, it is clear that the disease is one of international importance.

### Detailed Investigation

The survey of which details have now been made public was carried out by the Medical Research Council, a State body with headquarters in London, which, in collaboration with 17 different firms and many private employers, carried out a detailed investigation of just over 6,000 men and women engaged in very varied occupations, such as bus drivers, scientific research workers, physicians, waiters and mechanics.

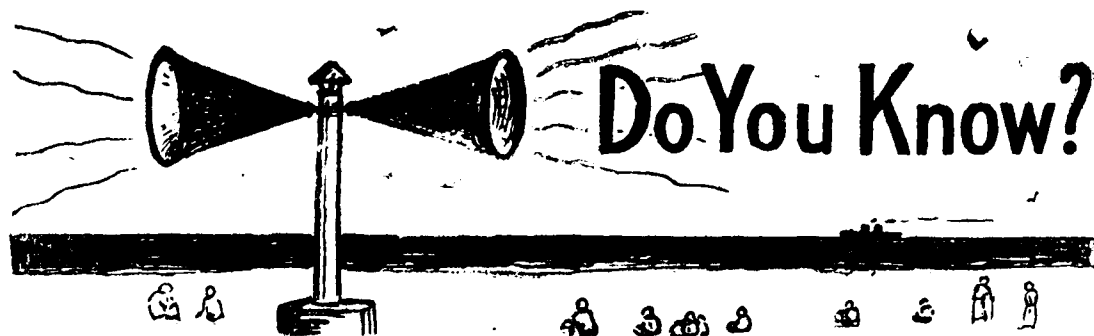
Relatively few women were included in the survey, as the incidence of the disease in women is known to be roughly three times less than in men; consequently the inclusion of large numbers of women would have meant that fewer cases of peptic ulcer would have been expected and the statistical analysis of the results would have been less reliable.

The results of the survey, although not establishing any clear connection between ulcers and particular occupations, are of great interest. The incidence of the disease rises rapidly with age, and in the case of men in the age-group 45–54, it is no less than 10 per cent. As previously noted, women are much less often afflicted than men. The complaint is most likely to develop after the age of 35. Another very definite trend noticed was that duodenal ulcers are far more common than gastric ulcers, in the ratio of roughly 2:1.

### Worry as a Cause

Some evidence was found for the popular belief that worry is a predisposing cause.

(Continued on page 305)



### Epidemiology—An Explanation

The word epidemiology is derived from the Greek "epi," upon; and "demos," the people. It has to do, therefore, with occurrences to human populations or communities; and taken literally, it relates, presumably, to occurrences of any kind. In common usage, however, the word "epidemic" is used to refer to the occurrence of outbreaks of infectious diseases or to the visitations of pestilences which have scourged human populations at intervals throughout the period of recorded history. "Epidemiology" has consequently often been used in the restricted sense of referring to the study of the origins, development and distribution of the epidemic infections; and the word is still commonly used in this narrow sense.

—Fred Grundy.

### Memory From Babyhood

Q.: Will a 2-year-old child remember everyday happenings, or are incidents permanently remembered only after the age of 3?

A.: It is difficult to determine whether a child will recall in adulthood incidents and experiences that happened at 2 years of age. There are no well conducted experiments of memory to give us reliable information on the age of earliest memories. A man may say that he can recall events which occurred at 3, 4 or 5 years of age, but it is possible that he is relating incidents and experiences that relatives, usually parents, have recited. There are autobiographies, some written by prominent people, which report memories of childhood incidents at about age 3,

but here again one cannot determine whether the person actually remembers the incidents or reports what others have told him. In our opinion, it is not probable that an adult can consciously recall incidents and experiences that happened as early in life as the second year of age.

—Hygeia.

Q. Why is a fire put out when water is poured on it?

A. The obvious answer is that the water cools the fire. This is only partly correct, because boiling water and not only cold water will also put the fire out. The chief reason is that the fire turns the water into steam, which surrounds the burning material and prevents sufficient air getting to it. Without a plentiful supply of air nothing can burn.

Q. Why are some fire pails filled with sand instead of water?

A. It is usual to hang red fire pails filled with water in all public buildings. It is a growing practice, however, to have one of them provided with sand instead of water. The reason for this is that water is useless for putting out fires caused by petrol or by an electric fuse. Sand, nevertheless, is an efficient extinguisher in their case.

### Flying Babies

Q.: Are there any dangers from air travel for an infant under 1 year? Do not special precautions have to be taken?

A.: Scientific studies of this matter have indicated that the average healthy

### Do You Know?

299

baby reacts better to flight conditions than do adults. Air sickness is extremely uncommon in infants. The temporary disorder known as *aero otitis media*, in which pain is produced in the ear during descent of a plane, apparently occurs less commonly in infants, but complete evidence is not available. One factor that would tend to make it less likely is that in the infant, the tube connecting the middle ear chamber and the throat is still short and straight. This tends to make its spontaneous opening and closing easier. In the adult, the tube can be opened by chewing and swallowing movements, yawning or singing. To forestall possible trouble, the parents or attendant should waken a child and give it food to eat or a bottle to nurse when the plane begins to descend.

If an infant has a head cold, advice of the family physician should be sought before taking a plane trip. It may be desirable to apply special treatments to reduce swelling in the throat tissues.

If the child is fed during a flight in which altitude changes are occurring and a pressurized cabin is not provided, some gas expansion may occur in the stomach as higher levels are reached. This could result in return of food. Care should be taken to keep the child from swelling air, and frequent "burping" probably would be helpful. This is not a problem during descent.

### To Day's Health.

Q. How may purchaser ascertain the freshness of fish?

A. Firmness of flesh, and clearness of eye are the indispensable criteria of any fish being fresh and good. Cod can also be tested by the rigidity of the muscles and scales, and the redness of the gills. Fresh turbot should have the underside of a rich cream colour.

Q. How would you destroy moths?

A. When drawers and cupboards become infested with moths, the wood work

or walls should be coated with a strong decoction of tobacco or sprinkled with spirits of camphor. Fresh ground pepper sprinkled amongst your clothes will generally destroy moths.

### Athlete's Heart

Q.: Could a tendency to develop athlete's heart be inherited? What is actually the cause of athlete's heart, and how soon would a person know he had such a condition?

A.: No reliable evidence ever has been presented that the condition referred to as athlete's heart is an actual clinical manifestation or a specific disease. The consensus among physicians is that if an individual takes part in extremely active exercise or games, the heart may enlarge slightly, just as any other muscle of the body tends to enlarge as a result of use, but that this never proceeds to the point where it becomes of serious significance. Inheritance is not considered a factor.

In most instances, former athletes' deaths, allegedly the result of athlete's heart, are due primarily to failure of such individuals to adhere to the high level of physical fitness they once maintained, or because of a heart or circulatory disorder not previously discovered. A common error is continuing a large intake of food while physical activity decreases greatly. In certain instances, considerable amounts of fat are deposited within the body, and there may even occur deposit of fat within the heart muscle itself. This will naturally interfere with its proper action, and if such a person tries to undertake exertion, the heart may not be able to take care of the increased demand.

The only really satisfactory approach to this problem is a thorough study to determine the actual condition of the individual's heart and its size in relation to the work it is being called upon to do.

—To Day's Health.



*Wit's an unruly engine, wildly striking,  
Sometimes a friend, sometimes the engineer.*  
—George Herbert.

#### Democracy—A Definition

In seeking a definition of democracy, this one satisfies me best: democracy is a political expression of deeply felt religion. We are fallible. We certainly haven't attained perfection. But we can strive for it and the virtue is in the striving.

—Carlos P. Romulo.

#### Old Age—Its Causes

Nobody grows old by merely living a number of years. People grow old only by deserting their ideals. Years wrinkle the face, but to give up enthusiasm, wrinkles the soul. Worry, doubt, self-interest, fear, despair—these are the long, long years that bow the head and turn the growing spirit back to dust.

—Watterson Lowe.

#### First Come is *not* first served!

The nurse beckoned to one of a group of expectant fathers at the hospital and announced "you have a fine son".

Immediately another man from the group rushed up and complained "what's the grand idea? I was here before he was I have been waiting now for four hours".

#### The Perfect Picture

It was a wise man who said "the picture of health requires a happy frame of mind."

—Health News Service of the  
Health League of Canada.

#### The Main Idea

The public health worker should never lose sight of the fact that his primary objective is to prevent disease, not to enforce regulations.

—Dr. John D. Porterfield.

#### Unfrozen Assets

The possession of tact and understanding are assets to any individual—in a sanitarium they are priceless possessions.

—Treva Richardson.

#### Sanitary Engineers to the Rescue

Living conditions would soon become utterly intolerable if it were not for the sanitary engineer who uses scientific means for combating the nuisances created by modern methods of living.

—Dr. Thurman B. Rice.

#### Big Little World

We live in a world of extremes: a world which it is possible to circumnavigate in a few hours; a world in which the carelessness or ignorance of one person may cause disease or death for many.

—Dr. A. Leslie Banks.

#### Best Bulwark Against Infection

Every mother of a family, and every doctor in practice, firmly believe that the best bulwark against infection is good

#### Wit and Wisdom

301

wholesome food. The association of tuberculosis with poverty and malnutrition is particularly noteworthy.

—Editorial, Lancet.

#### The Root Cause

The experience of two great wars and studies of the mortality figures of tuberculosis in relation to environment have shown that when the standard of living falls tuberculosis rises.

—Frederick Heaf.

#### Education Is Health

We need to teach people not only how to avoid tuberculosis, how to recover from tuberculosis and how to stay recovered, but also how to be healthy and how to make the most of life. . . . We cannot do an effective job in tuberculosis unless we do also a thoroughly good job of health education—that is, education in health.

—Iago Galdston.

#### Adhere to Prescribed Diet Or Die

"Did you keep to the diet I prescribed for you?"

"I've tried to, doctor, but it hasn't been easy."

"Nonsense! I said you were to eat what your three-year-old baby boy eats."

"Yes, doctor, I know. Candles, pieces of coal, shoe-laces, India-rubber. . . ."

#### A Strange Case

First Doctor—"Well, doctor, I had a peculiar case today."

Second Doctor—"What was it, please?"

First Doctor—"I saw a grass widow who is afflicted with hay fever."

#### Courtesy!

Two doctors were while out on a walk going behind a grave digger. Noticing the doctors, the grave digger stepped aside and allowed the doctors to overtake him. Surprised, the doctors asked him "What is the idea?" The grave digger answered, "Professionally, I come after you."

#### The Greatest Of All . . . .

Famine is the greatest of all politicians. We cannot build peace on an empty stomach.

—Sir John Boyd Orr.

#### Death Is Death

Death by disease and slumdom is death just as much as if it was caused by a bomb.

—Clem Davies.

#### Health And Hope

He who has health has hope, and he who has hope has everything.

—Arabian Proverb.

#### When, Where And How

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

—U.S. P.H. Service.

#### Prevention—Underlined

It is not often that an outbreak of food poisoning of any importance, whether of severity or extent, remains undetected, but it is rarely detected in time for efficient action, so food poisoning must be attacked on the preventive side, that is to say, by preventing food from becoming contaminated, or, when contamination has occurred, by preventing its distribution.

—From "Notes and Comments,"  
The Medical Officer (London).

#### Mistaken Identity!

The doctor rushed out of his study.

"Get my bag at once" he shouted.

"Why, Dad?" asked his daughter "what is the matter?"

"Some fellow just phoned he can't live without me," gasped the doctor, reaching for his hat.

His daughter breathed a sigh of relief. "Just a moment" she said quietly "I think that call was for me."

# FROM EVERY WHERE



## WHAT DO THEY SAY ABOUT IT?

*Readers can contribute to this section. They are requested to send extracts of current literature which, in their view, would interest the readers.*

—Ed., P.H.

### Fly Control Techniques

Joseph H. Coffey & Paul m. Maler. *American Jour. of Public Health*, 40, 561-66 (May 1950).

Procedures used by the Communicable Disease Centre, PHS, to reduce flies in any community are: (1) Improvement of sanitation practices, (2) screening, (3) application of residual sprays to selected fly resting surfaces, (4) application of larvicides in selected sites, and (5) broadcasting of space sprays over extensive areas. While these methods may reduce flies to near the vanishing point, they are quite expensive but the level can be brought down to a Scudder grill range of 4 to 10 at a reasonable cost. Screening effects the fly population little but reduces the fly-human contact. Residual applications of DDT (or methoxychlor for dairy barns, chlordane of DDT-resistant flies) to interiors and to outbuilding exteriors causes fly reduction. DDT is still best and should be applied at 200 mg./sq. ft. using 5 per cent solutions, emulsions or suspensions. In cities, spraying of garbage cans and the walls, fences, or vegetation immediately surrounding is desirable. Exterior treat-

ment gives erratic results. The addition of 10 per cent pine gun rosin to a 25 per cent DDT-xylene concentrate increases adhesiveness of sprays and the duration of effectiveness. Larviciding with emulsions of 2-4 per cent chlordane at 50-100 mg. of toxican/sq. ft. of surface is usually restricted to locations of heavy larvae abundance. Exterior space spraying with mists or fogs is effective in destroying adult flies which escaped control by residual or larvicidal methods. It gives only temporary relief and must be repeated at intervals of 1 day to 2 or 3 weeks. A 5 per cent DDT emulsion applied at 0.4 lb. DDT per acre is recommended for dispersal in fine droplets (20-100 u).

Improved environmental sanitation is required, as the expense of chemical fly control alone is prohibitive. This includes improved methods of storage, collection and disposal of fly-breeding wastes from homes, commercial establishments and industry. Experiments in Hidalgo County, Tex., proved the role of flies as transmitters of diarrhoeal diseases so that fly control is justified from both health and nuisance aspects. The garbage and refuse storage,

### What Do They Say About It?

303

collection and disposal facilities require immediate attention if flies are to be controlled economically.—John S. Wiley.

—P. H. Engg. Absts.

### Domestic Flies—Public Health Significance and Biology

R. F. Fritz. *California's Health*, 7, 153-5 (Apr. 30, 1950).

Domestic flies have been suspected as transmitters of human disease since ancient times and actually have been incriminated by strong circumstantial evidence in many instances. The hairy body and sticky feet of flies are ideally suited for the collecting, harboring, and carrying of a great many disease-producing bacteria. Domestic flies have long been responsible in the transmission of typhoid, cholera, yaws, intestinal protozoa, and eggs of parasitic worms. However, in the United States today it can be said that they are currently of no significance in such transmission because of sanitary advances.

The term "domestic flies" is used to denote that group of flies that have habits closely associated with man and his habitation. These flies are commonly seen flying in and about the house. These domestic flies develop in warm moist organic matter such as animal excrement, garbage, dead animals, and animal feeds. Almost all of the species lay large numbers of eggs on the type of material that will be suitable for larval development. These eggs generally hatch in a matter of hours, and the tiny white maggots develop rapidly. In about 3 to 15 days under favourable conditions the larvae reach maturity and begin to move to a drier part of the culture media or the soil to pupate. After a few days the adult fly emerges from the reddish-brown puparium.—W.W.M.

—P. H. Engg. Absts.

### Studies on Household Sewage Disposal Systems

Weibel, Bendixen, Coulter & Berk. *Activity Report No. 3, Environmental*

Health Centre, Federal Security Agency, Public Health Service, 24-28 (Mar. 1950).

The author has conducted studies on household sewage disposal systems since 1946. One report has been published and a second report covering these studies is now being reviewed for publication. The portion of the studies presented in Activity Report No. 3 concerns the effect of compartmentation on septic tanks, and the effect of different types of septic tank effluents on the percolation rate of a soil under laboratory conditions. Graphs and a table containing experimental data are included. The effect of compartmentation on one, two- and three-compartment rectangular tanks of equal capacity are studied. In this particular experiment best over-all performance was observed in the two-compartment tank. The soil absorption study shows that the percolation rate of a soil falls off more rapidly when dosed with the effluent from a septic tank which has been receiving garbage than it does when dosed with the effluent from a septic tank which has been receiving fresh city sewage only. Percolation rates are lower for disinfected effluents than for septic tank effluents which have not been disinfected. Some work on the effect of sodium and calcium concentrations on soil clogging are reported; however, no general conclusions are presented on this subject.—J. B. Coulter.

—P. H. Engg. Absts.

### Utilization of Organic Matter from Municipal Wastes

L. P. Brunt, *The Surveyor*, 109,241 (Apr. 28, 1950).

The composting process requires that the garbage be spread in compartments having perforated floors with space beneath for drainage and ventilation, and that the sludge be distributed over the garbage, either at intervals as successive layers are built, or on top of the finished heap. The technique depends to some extent upon whether or not the sludge has been digested and upon other local circumstances. The depth to which the bed of garbage is built should be 5 ft., but it may be increased

to 15 ft., or more, when large quantities are to be treated, in order to economise in site area, and to simplify the handling arrangements. Natural ventilation is needed to maintain aerobic conditions in deep compartments. The composting process provides a rational and hygienic means of treatment of sewage screening which should be incorporated in the beds of compost. Other ingredients might be waterplants grown in the effluent to recover the organic salts in solution, and a proportion, if not all, of the fine screenings from the refuse separation plant. If the mixture of solid wastes is of a sufficiently open or permeable texture, it may be feasible to use the bed as a kind of filter and feed large quantities of sludge on to it, the solids being strained out whilst the liquid drains through and is returned to the sewage works.—W.W.M.

—P. H. Engg. Absts.

### How to Make Good House Connections

It is vital to keep the house connection to a public sewer in service at all times. Stoppage and costly reconstruction can be avoided by a proper installation. "For residential use, 4-inch inside diameter connections will give fully satisfactory services when laid in a straight line and with a uniform slope of at least one-fourth inch fall for each foot of length." Five illustrations show "right" and "wrong" methods of installing pipes. Bedding of pipe, pockets for bells, upward tilt pipe connection to lateral sewer, and pipe through wall with bell resting in wall flush with the outside face are recommended.—J. A. Salvato, Jr.

—P. H. Engg. Absts.

### The Use of Drugs in TB Treatment

Within the past four years, a great deal has been learned of the place of drugs in the treatment of tuberculosis. However, as is the case with most scientific discoveries, the advent of new drugs has raised more questions than it has settled.

The drug treatment of tuberculosis is not definitive—that is, drugs do not cure the

disease by themselves. Of the three great types of tuberculosis treatment, bed rest, surgery, and drug therapy, the last is probably the least important. Its main contribution is that, when used in conjunction with the other forms of treatment, better results may be obtained than by bed rest and surgery alone.

Because drug therapy is not definitive and because it has limitations, it has been found essential to plan the total treatment of the tuberculosis patient in the most careful manner, integrating the use of drugs with other therapy into a planned program. Rarely is it possible or advisable to do this on an out-patient basis.

### Important Drawbacks

The two great deterrents to the use of drugs in tuberculosis treatment are their toxicity and their tendency to encourage the development of strains of tubercle bacilli which are resistant to the specific drug in question. No drug has yet been found which is sufficiently efficacious and, at the same time, sufficiently free of these drawbacks to warrant its free use in tuberculosis treatment.

Streptomycin and its derivative, dihydrostreptomycin, remain the drugs with the highest specificity against tuberculosis, but in relatively high doses they are toxic. Also, when administered alone, they contribute quite rapidly to the appearance of resistant strains of tubercle bacilli.

Fortunately, it has been found possible to give doses sufficiently small to avoid serious toxicity, in the range of one gram per treatment day, and still retain a satisfactory therapeutic result. If higher doses are used—two grams or more per day—dizziness, an unsteady gait, deafness, kidney damage, and other toxic manifestations occur quite commonly. Except for such serious conditions as tuberculous meningitis and miliary tuberculosis, where the risk of toxicity is preferable to an unfavourable outcome of the disease, the smaller dose is preferred.

—William B. Tucker, M.D.

—(The NTA Bulletin)

(Continued from page 297)

Thus, high incidences were found among business executives and foremen, representatives of two different classes in positions of responsibility. Rather unexpectedly worry connected with work appears to be far more harmful than worry connected with the home. It seems clear, however, that the causes of duodenal and gastric ulcers must be different, for it is the former which appear almost exclusively to be brought on by worry and in addition they make their appearance at a considerably earlier age.

No evidence was found that drivers of motor vehicles, often considered a particularly susceptible class, suffered more than any other section of the population. Going to the other extreme, however, agricultural labourers were found to be markedly free from the disease, and it is tempting to

correlate this with their simpler and less hurried way of life compared with city workers. Irregularity of meals, another supposed cause of peptic ulcer, showed no detectable effect within this particular survey.

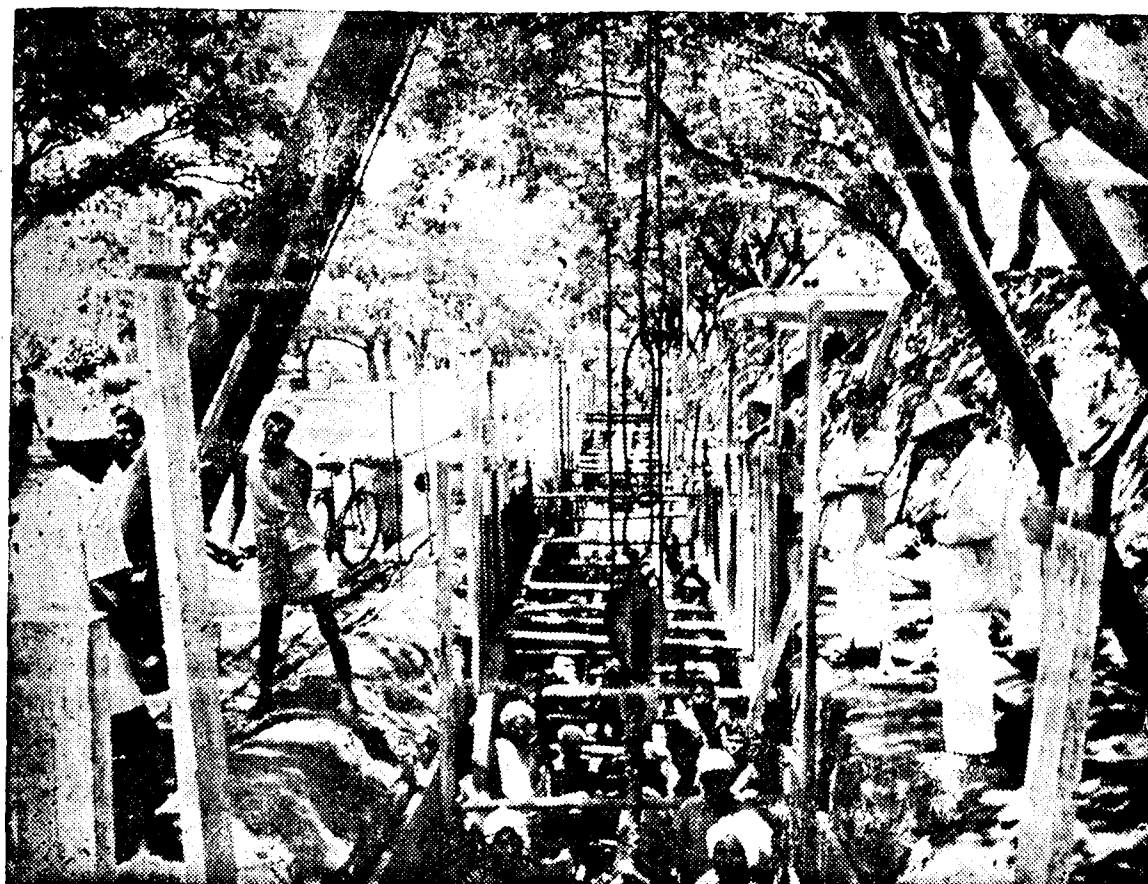
The importance of this carefully controlled survey lies less in what it has established as new as in the doubts it casts on many generally accepted views. In particular, irregular meals, domestic cares, employment as a driver, and shift work—all widely supposed to provoke the disease—appear to have no detectable effect. On the other hand, it is confirmed that great responsibility in daily work is a pre-disposing cause. The survey is thus, a major step to a proper understanding of a disease which—apart from the suffering it entails—has become of very considerable economic importance.

B.I.S.

### STOMACH AND DUODENAL ULCERS

Sometimes an ulcer, or small crater-like infection, develops in the mucous membrane of the stomach or duodenum, usually near the pyloric orifice. Even though small, this infection is extremely sensitive to digestive fluids and to muscular contractions; in some cases it causes severe hemorrhages, or great losses of blood. The ulcer may arise from a variety of conditions, such as hurried eating of meals, the use of strong spices, excessive indulgence in alcoholic drinks or tobacco, or a gloomy disposition. The treatment includes a special diet, usually of milk and milk products, taken in small amounts at two or three-hour intervals. If a victim begins treatment early, takes good general care of his health and remains cheerful in spite of his condition, he ordinarily recovers within a few months. In case the infection deepens, however, or perforates the lining of his stomach or intestine, as sometimes happens, he may require an operation.

—Life and Health—Wilson, Braken and Almack.



**GANNON, DUNKERLEY & CO. (Madras), LTD.**

14, BOAG ROAD MADRAS, 17

Phone No. 88316

Telegrams "VITOPUS" Madras

## WATER-SUPPLY AND DRAINAGE SCHEMES

Now is the time to investigate and design these schemes. We can supplement departmental activities under expert direction.

*Consult Us*

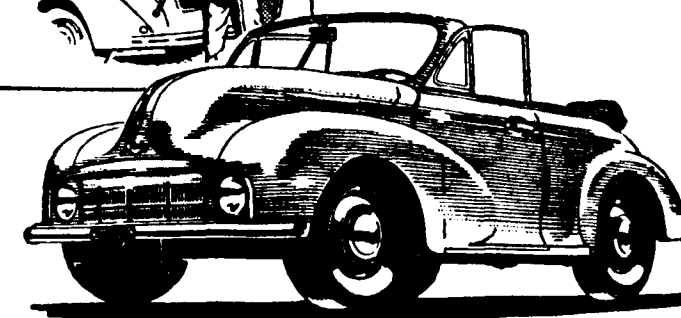
Published by Mr. A. V. Raman for People's Health Publications Ltd., at Lloyd Corner, Royapettah, Madras-14.  
Printed by Mr. E. Sendall at the Associated Printers (Madras) Ltd., Mount Road, Madras-2.

*This dainty dashing tourer*

for only Rs. 7,775/-



'Monoconstruction' of body and chassis ensures greater strength, lighter weight, higher longevity.



the superb  
**morris minor**  
tourer

This miracle small-car-with-big-car-features is the result of modern carcraft perfection. Economical in price and running cost, its supremacy is based on its one-piece wind-cheating body, independent front-wheel suspension, Lockheed hydraulic brakes, roomy within-wheelbase seating accommodation, wide-angle vision for driver, water-proofed hood and winding glass windows. It affords big-car safety too.

**Addison & Co. Ltd**

Madras, Bangalore, Coimbatore, Wellington  
and District Dealers who sell and service

The independent front-wheel suspension.

The fully balanced Lockheed hydraulic brake.

