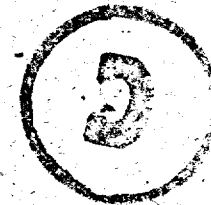


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We have no doubt that our subscribers would have perused an appeal issued to them in the issue of "People's Health", September, 1950.

We request our readers to note that we do not enrol subscribers for part of a volume nor discontinue the supply of the magazine during the currency of a volume.

The annual subscription is Rs. 12; it is payable in advance at Madras. Those who send cheques in payment of the subscription are requested to add the banker's commission also.

While remitting the subscription kindly note the subscriber's number.

Kindly intimate to us as and when there is any change of address.

Kindly do oblige the publishers by avoiding correspondence as far as possible, as it throws additional strain on them.

Madras-14,
31-10-'50

Manager,
"People's Health"

PEOPLE'S HEALTH

A Pioneer in the Field of
Public Health

Vol. V DECEMBER, 1950 No. 3

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Madras Baba Distributes HIS Divine Drug



Vol. V No. 3

DECEMBER, 1950.

Issued Monthly

EDITORIAL . . .

Vigilance, constant vigilance, must be the watchword when cholera threatens or is present, vigilance and attention to details—to the hands of the cook, to the icing of drinks, to the milk vessels, to the kitchen cloths, to a dozen items, apparently trifling, but any one of which may be a means of infection, the starting-point of an outbreak.

—Andrew Balfour & Henry H. Scott.

CHOLERA

The latest weekly epidemic bulletin of the Director of Public Health, Madras, shows that practically all the districts in the Madras State are in the firm grip of cholera. It is stated that during the period 1st January 1950 to 25th November, 1950, 33,140 people were attacked, of which 14,893 died.

In the publication of these reports, it should be noted that the authorities have arbitrarily determined that ten cases or less of cholera are not to be taken as indicating the prevalence of the epidemic in an area. We know from experience that if a few cases of cholera occur in a municipal area, the Municipal Health Officer usually reports that the cases were 'imported' from the neighbouring villages where cholera is prevalent. The District Health officer in his turn repays the compliment by saying that the occurrence of cholera within his jurisdiction is due to imported cases from neighbouring municipal

towns. These so-called imported cases fulminate into a raging epidemic in due course. From a public health point of view, there should not be even a single case of cholera in any place, as it is only a question of time before a smouldering epidemic bursts into a raging one.

So far as the Madras State is concerned, it is regrettable that no effective or permanent measures are ever adopted to root out this epidemic. The two recognised precautionary measures against cholera are inoculation and sterilisation of the sources of water-supplies. So far as the latter is concerned, it is usually entrusted to people who cannot be expected to have any practical knowledge of the chlorination of water sources. In effect, this reduces to an eyewash. Even inspecting officers—save honourable exceptions—seldom understand the technique of chlorination. We are reminded of an incident: An inspecting officer visited an infected area with the local Health

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Officer and the Health Inspector. The source of water supply was a river. The inspecting officer asked the Health Inspector "Why don't you do pot chlorination?" The Health Inspector innocently asked for instructions. He said he knew what to do but wanted to have precise and definite instructions on the *modus operandi* of this method of chlorination. The inspecting officer ridiculed the subordinate for his ignorance and instructed him: "Stick up a post a little higher than the place whence people take water. Mix stabilised bleach in a pot of water and have the pot tied to the post keeping the top of the pot to the level of the water." Anyone familiar with the subject would be able to appreciate the humour in this instruction, which was absurd.

The Water-Supply and Drainage Committee made several recommendations in their report dated 28th August, 1947. The 'Hindu' in an editorial dated 9th November, 1950 commented under the caption 'Planning in sanitation'. That leading article pricked the bubble. The Government of Madras drew attention to the press communique No. 5 dated 21st April, 1949 wherein they were supposed to have laid down their policy. This communique should merely confirm the feeling that orders are being passed, while little is being done. Words are not stinted, but progress is at a standstill. It has become a force of habit even with our popular ministries to issue G.Os and call it a day. One of the recommendations of the committee was that Army engineering divisions and labour corps should be employed during peace time for the execution of water-supply and drainage schemes.

The press communique cited states:

"The Government of India's consent has been obtained for utilizing the Army engineering division and labour corps for executing water-supply and drainage schemes, provided such units are available and can be spared."

We ask whether the Army authorities in the Madras area were approached at all for their co-operation and if so with what results.

Seeing that in certain areas cholera is endemic, the Director of Public Health, very wisely recognized that improvements should be effected only under competent technical advice and that the execution of rural water-supplies in those areas should be transferred from the Collectors to the Sanitary Engineer to Government; but the Government negated the suggestion.

Vested interests take care to impress upon the public the mortality figures, real and imaginary, of tuberculosis, cancer and such other diseases, but no one seems to advertise the published official figures on deaths due to cholera! Can this lack of interest in fighting cholera be due to the absence of any pecuniary temptations, in its prevention?

We are told that the epidemic of cholera is transmitted mainly in three different ways—through contaminated water supplies, by direct contact with a case or a carrier and by indirect contact in consuming contaminated articles of food. The Chief Minister, Orissa, it is stated, was panic-stricken

seeing that cholera had taken an epidemic form. It was reported that he was moving about frantically in the affected areas giving instructions for the quick *dispersal of the congregations*, as it was not possible to give them shelter anywhere in the affected areas. Thus the Orissa State has distributed cholera throughout the neighbourhood by *dispersing* the people in all directions. Now there is a likelihood of epidemics breaking out all over!

In their armoury, the Governments have adequate powers to meet any situation. The authorities do not hesitate to invoke every provision of law to exercise their powers of control for the maintenance of law and order; but the most staggering feature is the invocation of section 144 Cr.P.C. to

prevent people gathering for fairs and festivals and such other occasions on the ground that cholera is prevalent in that area. Ordinarily a popular government should be expected to encourage people to visit such occasional centres, as it is the only amusement they get in their miserable existence. The occurrence of festivals in India is well known. The authorities have time to take all measures to prevent any epidemic. If, to cover up the inefficiency of the health administration, the States have to invoke such provisions as section 144 Cr.P.C., they can justly abolish the health administration and entrust the control to the Collectors of districts. After all, the enforcement of section 144 Cr.P.C. is an administrative point, which requires no technical knowledge in medical or public health fields.

FELLOWSHIPS PROGRAMME

The South-East Asia Regional Office of WHO in New Delhi has announced that during 1951-52, the WHO proposes to make available for the south-east Asia region one-hundred-and-sixtyone fellowships of the total value of 329,000 dollars. The announcement adds that during 1949-50 the WHO awarded a total of seventyone fellowships. One would be curious to know how these seventyone fellowships had been distributed among the several professionals working in the field of public health. It would equally be interesting to know how they propose to distribute the proposed fellowships during 1951-52.

The South-East Asia Regional office notifies that "the WHO fellowships are intended to help build up health

services by enabling *doctors and nurses* employed by governments to obtain advance training abroad in public health subjects like tuberculosis, malaria, venereal diseases, sanitary engineering, nursing, paediatrics and child-care, school health, health education and mental health". From the wording, it would appear that it is to enable doctors and nurses to obtain advance training in the subjects listed out. Fancy *doctors and nurses* getting training in sanitary engineering for instance! We have always held the view that the activities of the WHO are not so much to attack the fundamental causes for the low state of health in this country as to provide markets for their drugs and narcotics to cure diseases. The WHO ought to know by now that the

fundamental cause of ill-health in this region is the poor sanitary conditions in which the people live and that most of the diseases they are subjected to, are directly or indirectly due to poor environmental sanitation. If the WHO seriously means to help this area, the first and foremost step should be to assist this region to improve its environmental sanitation. One of the excuses which is given is that there is a dearth of technical personnel and hence nothing could be done. On the report of the Sub-committee on Environmental Hygiene, the Executive passed a comment that this is not peculiar to India but also to other countries in the West. That is no reason why our deficiency should not be made good.

The WHO has imported an expert in environmental sanitation to assist this country. We have been eager to know what the activities of this expert are. We have had no information whatsoever

as to how this imported expert has rendered professional assistance or advice to improve the environmental sanitation in this country. There is a suspicion among many that in the name of improving the health conditions of this country, jobs are being secured for foreigners, at the same time showing to the world that so many millions of dollars have been distributed to develop these under-developed areas! The people of this country are being fooled to believe something is being done to improve the nation's health. As we have pointed out already, it is absurd to expect other countries to cleanse our stables and dwellings and thereby improve the living conditions of our masses. The responsibility should primarily rest with our own government; but unfortunately our governments have no clearcut policy of their own. Yet, sometimes mistakes arising out of our own ignorance are better than losses possible by the calculated advice of others!

POWER POLITICS

News of the annual general meeting of the Chamber of District Boards reached us as we were going to press.

In his address, the President of the Chamber urged the establishment of a separate engineering department for the District Boards, as the enactment of the Madras Act VII of 1946 had "created untold difficulties in the way of administration". The difficulties were really 'untold'; he did not tell us what they were!

Referring to the expansion of village communications and improvements to the existing roads, the President com-

plained that the five year Scheme of Post-war Road Development had been drawn up by the engineering department without correct and intimate knowledge of local requirements and conditions. This seems to imply that a knowledge of local conditions follows residence or nativity in the locality, which qualification technical men do not have and therefore become unfit to understand the peculiar problems of a place. The argument is not convincing and is besides an affront to the alleged omniscience of technical men.

(Continued on page 115)



By SLEDGE HAMMER

Fear not to lie, 'twill seem a lucky hit;
Shrink not from blasphemy, 'twill pass for wit;
Care not for feeling—pass your proper jest,
And stand a critic, hated yet caressed—Byron.

Holidays or Holy Days?

ANSWERING an interpellation in the Legislative Assembly, our Finance Minister is reported to have said "The Government had to grant a number of holidays in view of the holy days observed by followers of different religions in the State and it was not their desire that there should be too many holidays." And when a member complained that the holidays were far too many as compared with those observed in other countries, the Minister replied: "In view of the tropical climate of our country, we do require some holidays." What a revelation!

Indeed, that's what they all say: the labourer when he wants less work and more wages; the capitalist, when he wants more profit and less costs; the corporation, when they want more taxes and less amenities; the government, when they want more ideology and less perquisites; the gallant bigamist, when he wants more wives and less children; they all say 'we live in the tropics and so we need more of what we think we need!'

The tropical climate of our country has been enough excuse in the past for several eccentric things done by Europeans in the country; like the senior I.C.S. District Judge who had himself carried to the Court Hall seated in a bath tub filled

with cold water, dressed only in pince-nez; the Haileybury civilian judge who threw a red cricket ball across the Court Hall every time he heard a stupid argument; and the Andhra Judicial Officer who received a call from a European D.S.P. clad in a lungotee with his whole body anointed with oil; but not so far have we heard the like of an excuse as put forward by our Finance Minister in the manner of a schoolboy, who hates his Monday morning and longs for Friday night!

Finance! Finance!!

Hospitals are in a disgraceful condition and nothing can be done about that—as there is no money.

The demand for additional schools which require new buildings cannot be met, and the shift system has to be adopted—as there is no money.

No scheme for providing new houses to solve the housing shortage can be undertaken, nor can anything be done towards achieving this objective—as there is no money.

Slums cannot be improved—as there is no money.

Grants to welfare centres cannot be maintained—as there is no money.

Conservancy cannot be improved and human scavenging cannot be eradicated—as there is no money.

Good water for drinking cannot be provided—as there is no money.

Disease cannot be prevented—as there is no money.

Births cannot be controlled—as there is no money.

Deaths cannot be prevented—as there is no money.

More money cannot be obtained—as there is no money.

But who has the money? The Finance Minister. And what does he do with it? Showing it as the surplus in the Budget!

* * *

The Tragedy of Rentalai

Great minds think alike—the reference is to me and to Sir C. V. Raman. I had no thoughts about light and sound, crystals and carbons, molecules and atoms about which Dr. Raman thinks so much, but I had some very sinister thoughts about the youngster Nepali Baba of Rentalai, Orissa and his “cure-all” bark and that he would bite more than he could chew and that tragedy of some magnitude would result. And Dr. Raman thought the same way!

Nepali Baba, the miracle healer works for three days each week, and each day all roads in Orissa led to Rentalai, 17 miles from the nearest Railway station, and the congregation aggregated over a hundred thousand people each day. Bullock bandies in the area of a hundred square miles round about plied to and fro, faster conveyances did a roaring trade, and special trains were run. Everyone concerned including racketeers declared colossal dividends. Everyone was happy the millennium had set in, the age of miracles was on again. Perhaps the Government of Orissa State envisaged that the day was not far off when their hospitals could be wound up. Perhaps, also, Rajkumari Amrit Kaur had plans ready for liquidating the Health Ministry

and for her translation to another sphere of activity.

But, alas, God, the Great Humorist who had declared a grand slam, has been doubled and had re-doubled, won as usual. Cholera set in, hundreds of people died, and sudden deaths followed the lingering ones.

If the episode of the “cure-all-bark” is a manifestation of religious faith, all that we can say is its encouragement is a costly luxury. If, on the other hand, it is only a manifestation of human credulity to be seen all over the world, we must agree that in the conditions in which we live, it should be nipped at the earliest stage.

Would you call this uncommon commonsense? I agree! Would you rather have common nonsense?

* * *

Milk ‘Koa’

A few days ago I saw an advertisement in the papers to the effect that milk ‘koa’ was available for sale in packets and by the pound at depots of the Madras Co-operative Milk Supply Union. I am told that they have a seasonal surplus of milk which they are forced to convert into ‘koa’ to cut their losses!

The Agricultural Marketing Adviser of the Government of India says that adulteration of milk is so widespread that consumers have become almost indifferent to the quality of the milk supplied to them; that the milking capacity of the Indian cattle has deteriorated in recent years; that scarcity of milk in urban areas is aggravated by lack of transport facilities and of properly organised distribution, and that the oft-heard cry is ‘Oh, for some more milk and some good milk.’

There is something purposefully sinful, disgracefully inefficient, damnably callous, absurdly contradictory, ridiculously short-sighted, heartlessly cruel, poignantly melancholic, criminally negligent in the way that this milk problem is being viewed

at and handled by—(how shall I end up?) Divine Dispensation! There, I have wounded no one's feelings, have I? As for God Almighty, that's my private business.

* * *

Rajaji Says Life Is A Picnic Trip

I don't know if he says so today, but he is reported to have said that a few days ago at Lucknow at the Palaeo-Botanical Institute! Yes, Sir, he did! “If there are any inconveniences and difficulties in life, they are just like inconveniences in a picnic trip which add to the pleasure and excitement.” That's that, and what have we as answer? Nothing, nothing at all! All that we should do is to laugh away our blues and keep on painting the clouds with sunshine!

Mr. Palaeo Botanist reaches a picnic spot, opens his lunch basket, takes out his sandwiches, makes some coffee, and heats the milk. It turns sour. ‘Drat the milk’, he says, chucks it away, opens a tin of Nestles Cream (it's there in his lunch basket) and makes coffee with cream. ‘Attaboy’, he says, ‘God bless Rajaji, he's always right.’

Mr. Palaeo Botanist returns home, finds his child down with cholera and his wife in great despair. ‘Drat the brat’, he says, shoves him in hospital, pats his wife on her back, and tells her “Don't fret, young woman, I will give you another child. And remember, life is one long picnic”. She gives him the horse's laugh!

“The end is certain and there is no trouble after death” also said Rajaji! He seems to be a little cocksure about no trouble after death. We wonder!

Here is a story to cheer us up. An army officer who had gone up before a medical board for a routine check-up received a wire reading “Regret inform you that tests show you have tuberculosis and heart trouble.” An hour later another wire came saying “Please disregard last wire. Your

record confused with that of another officer.” The relieved officer wired back “Sorry, but your correction came too late. I committed suicide forty minutes ago.”

“No trouble after death”, what?

* * *

The Surgeon-General Calls It Disgraceful

Dr. David is a brave man; indeed, he is almost lion-hearted! He says the condition of the Government Headquarters Hospital at Palamcottah is “disgraceful” and does not seem to bother about offending or hurting anyone! When I read the report of his speechy roar at Palamcottah on the 21st November last I thought someone was getting it in the neck pretty hard. I read through the roar again, it was mighty full-throated, and yet there was a leaky valve in it which let out all the invectives to run down the drain. The S. G. first got out neatly by saying that he himself had taken up office a short while ago and could take no blame on himself. He gave a first class chit to the D.M.O. who had expanded other hospitals elsewhere in the past and was therefore a Trojan at such jobs. He also said the Government were not to blame because they were always willing to expand, add, rebuild, reconstruct, remodel and renovate where they could with the finances at their disposal. Then who was doing the dirty and the disgraceful?

“I am not responsible for the past, as I have just come at a time when the Government are having financial difficulties.” Too bad, Too damn bad. It is absurd, monstrous, horrid, awful, putrid, vile, disgusting, gruesome, revolting, treacherous, atrocious, intolerable, damnable, sickening—there, we have added a few more invectives to that mild word “disgraceful” and why not, when no one feels hurt?

Now let Dr. David take his sling, and hurl a pebble therefrom on his Goliath of “Financial Difficulties” if he will! Dare he?

Mr. Tandon On Conservancy

Mr. Tandon's solution to the problem of conservancy is to have "model houses with open land for the collection of refuse and soil, which can periodically be collected as compost." All open space and no latrines makes fouling a real joy, what? After all it all depends on how you view it! You have just to start recasting the nursery rhyme,

"Boys and girls come out to play," to read,
"Boys and girls come out to foul,

And make a mass of compost", etc.—
The idea may be funny, but once you start working on it everything will work like on ball-bearings!!

After all said and done, there seems to be no bankruptcy of originality in our country!

* * *

Raja Maharaj Singh Says Knowledge Is Unitary

Under the caption "Trading Youth For Leadership", Raja Maharaj Singh is reported to have stressed on the importance of scholarship in English and assimilation in other parts of the world, unhampered by linguistic barriers for youngmen aspiring to leadership.

I don't know what he is talking about, and perhaps what he says might apply to

All-India Leadership (for the present, perhaps); but, so far as Madras State is concerned, knowledgeability is the pet aversion of leadership. If one can harangue in some lingo, wear dirty clothes, and develop a sadly humble countenance, he is sure to be acclaimed a leader and can stayput at being one, whatever he does or does not. At once a leader he is asked to preside, open, inaugurate, instal, hoist—he is listened to by everyone, patriots, pedagogues, poets, philosophers, pediatricists, psychiatrists, physicists, pandits, palmists, pimps, prostitutes, why everyone,—his sayings are printed, published, read and quoted—and they merge with the wisdom of the Gods. There is as little

connection between leadership and erudition as between a cow and astronomy!

* * *

'By A Doctor'

After listening to the several broadcasts 'By a Doctor' through All-India Radio, Madras, I am now fully acquainted with most of the secrets of Perfect Health and the technique of ensuring immortality. Just a few unimportant items have not yet been clarified, and I am hoping that a few more talks will help.

For instance:

1. Should I drink cold water, or hot water, or tepid water? Should it be boiled or just heated? Well water or tap water?
2. One doctor said I should drink no water. Another, that I should drink any quantity that I could. What am I to do?
3. Should I drink fresh milk, or boiled milk or pasteurised milk; skimmed milk or full cream milk; tinned milk or reconstituted milk?
4. Should I eat only vegetables? Boiled vegetables? Uncooked? Leafy? Gourds? Tubours? Cold stored? Fried?
5. What about fruit? What kind? Juicy? Fleshy? Pulpy? Citrous? Why? How? When? How many? Morning, day or night? After food, before, during, or instead of?
6. What about roughage? How rough? What about Touchage? How tough?
7. One meal? Two? Three? Four? What intervals? At home or other homes?
8. Tea, coffee, cocoa? Whiskey, gin, beer? (Oh! sorry, I forgot I am prohibited).
9. Cigarettes, cigars, pipe? Purgatives, oils, pills or powders?

There are some more, but these are of minor importance. The main point is I listen to doctors and will therefore live long and defy death. I do not eat an apple a day for fear of keeping the doctor away.

EDUCATION OF HOSPITALISED CHILDREN

AN EXPERIMENT

By

Dr. J. M. Kumarappa,

Director, Tata Institute of Social Sciences, Bombay.



Two thousand years ago Jesus expressed the importance of the child in his famous words, "Suffer them unto me for of such is the Kingdom of God". As years roll on and bring greater understanding of human behaviour, we became more and more aware of the significance of these words. The future of a nation as well as of civilization depends on the care and training given to its children. Only when they receive love, good care and education can they be expected to grow up into healthy, desirable and useful citizens. On the other hand, individuals who are deprived in their childhood, of affection and security as well as opportunities to learn, are not likely to grow up into well-balanced and healthy adults.

In view of the growing importance of childhood, Governments of various countries of the world including India, are trying their best to create greater facilities for the care and education of their little ones. It is no wonder, therefore, that the present century is spoken of as the "Century of the Child". In spite of limited resources, our governments are attempting to raise the status of the child; for example, there is an effort to increase the number of schools and also improve the quality of education. Again in cities and towns, municipalities are also providing more playgrounds for children. These

facilities are available only to the normal, able-bodied child. But a large number of the handicapped to whom school life or play life is denied, is not receiving enough attention.

These include the hospitalized children who are well enough to learn mental tasks as well as some manual skills, but whose illness requires them to spend several months or years in a hospital. They lie in bed, with little or nothing to occupy them, being cut off from the joys and adventures of their school and social life. They are deprived of the stimulating opportunities of learning. Thus their emotional and intellectual growth suffers greatly as they lie in the hospital day in and day out with a big emptiness. Is not education their birth right just as much as it is of their healthy compeers?

Our hospitals have achieved a fairly high degree of medical and surgical efficiency. While they attempt to cure the child physically, its mental and emotional well-being is ignored. Such a procedure overlooks a very significant principle, namely, that an individual functions or grows as a whole. One cannot hope to help the patient much by treating his sickness alone. There is evidence to show that if a patient can be kept cheerful or occupied with some creative work, his recovery is greatly facilitated, and that

learning activity has a great therapeutic value. Therefore like others those sick children who are able to undergo educational discipline should also be given opportunities to grow mentally; besides, when their minds are happily engaged in creative tasks, their bodies regain health quicker. Hence the great need for an educational programme in every hospital for children.

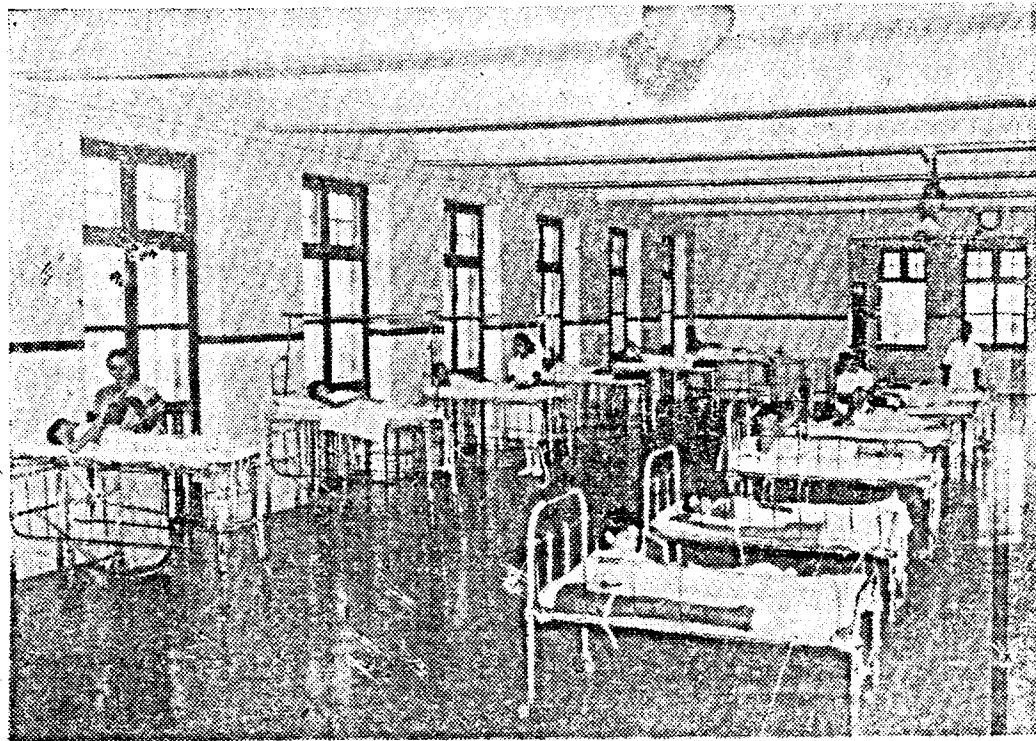
A new and Novel Plan

The first attempt to meet that need was made in the Bai Jerbai Wadia Hospital in Bombay. The medical authorities here, realising the necessity for educational opportunities for their child patients, eagerly sought the assistance of the Tata Institute of Social Sciences. In response, a few students of the Institute were sent to the Hospital off and on to teach the hospitalised children and keep them engaged. In spite of the enthusiasm with which the students took up this work, the experiment was not successful as conti-

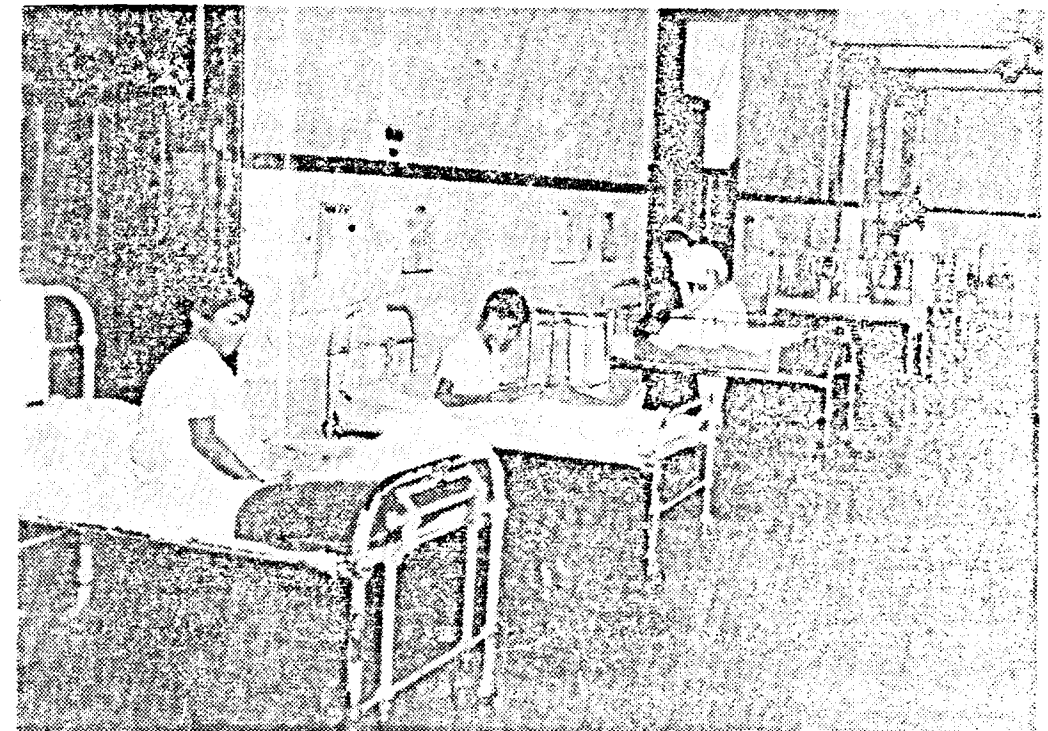
nuity and regularity in instruction could not be maintained. Then was formulated the new plan of education, a novel and pioneering one in India, for the benefit of the bed-ridden children in the hospital.

This project is now conducted in two wards. One of these wards has children who are being treated for bone T.B. and the other cases of bone deformity. The patients in each ward, boys and girls, range from two to fifteen years. The T.B. patients stay in the hospital for about one to four years while those with bone deformities remain for lesser periods. Each ward has about 16 patients.

The teaching programme is conducted every working day from 10 A.M. to 4 P.M. The children are taught reading, writing, and arithmetic and are also given some general information about current events and the outside world. In the afternoons, they learn handicrafts, such as, crocheting, knitting, making articles from paper, cloth and the like. Other types of creative work



Handicrafts are also taught while the children rest in bed.



Child patients enjoy reading during their leisure hours.

include making picture albums by cutting pictures from old magazines, moulding clay to any shape they like, painting and drawing pictures from crayons and playing with blocks.

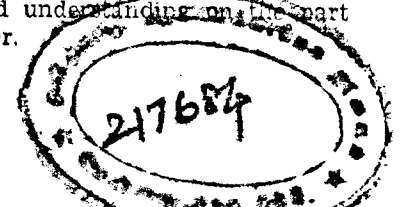
In addition to education and art work, the child patients are given opportunities to learn music and hear songs. Provision is also made for games, such as, dominoes, snakes and ladders and the like. The very young ones are given such play materials as dolls, blocks and other toys. Although this educational project is at present under the direct supervision of the Tata Institute, the Bombay Government are financing it and the Inspector of Schools pays periodical visits of inspection to the hospital school.

Equipment

The equipment of this scheme consists of school books specially suited to the needs of each child patient, story books in different languages, toys, play blocks, school supplies like paper for writing

drawing pictures and making albums, wool, assorted colour paper pencils, chalks and the like. Special bed desks are also needed as many of the patients are required to lie flat on their backs.

It must be observed that teaching in hospitals is not an easy task. Apart from the peculiar conditions which the hospital atmosphere presents, the group to be taught is of a heterogenous character. The children vary in age levels, education, mental development, and family background. Again, they speak different languages. In view of these special circumstances, individual bedside coaching becomes vitally necessary. The daily teaching programme has to be subject to the state of health of each individual child. Further when one member of the Ward becomes seriously ill or is to be operated, the entire group is affected and disturbed. Such situations call for deep sympathy and understanding on the part of the teacher.



Selection of Teachers

Therefore, the selection of teachers suited to this type of schools has to be carefully made. A special trained teacher, preferably with knowledge of child psychology, deep understanding of the emotional instability of the handicapped and sick children and familiarity with handicrafts and languages, is necessary, for this work. She should also have some teaching experience and a sound knowledge of the different social and emotional factors which influence illness and physical handicaps. She should be one who has a liking for children and an understanding of how to develop desirable aptitudes, initiative, self-confidence and responsibility in them.

As it is not possible to bring the life of a school to these children who are hospitalised for long periods, careful planning, great patience and sympathy are necessary on the part of the teacher to achieve good results. Her task will be all the more

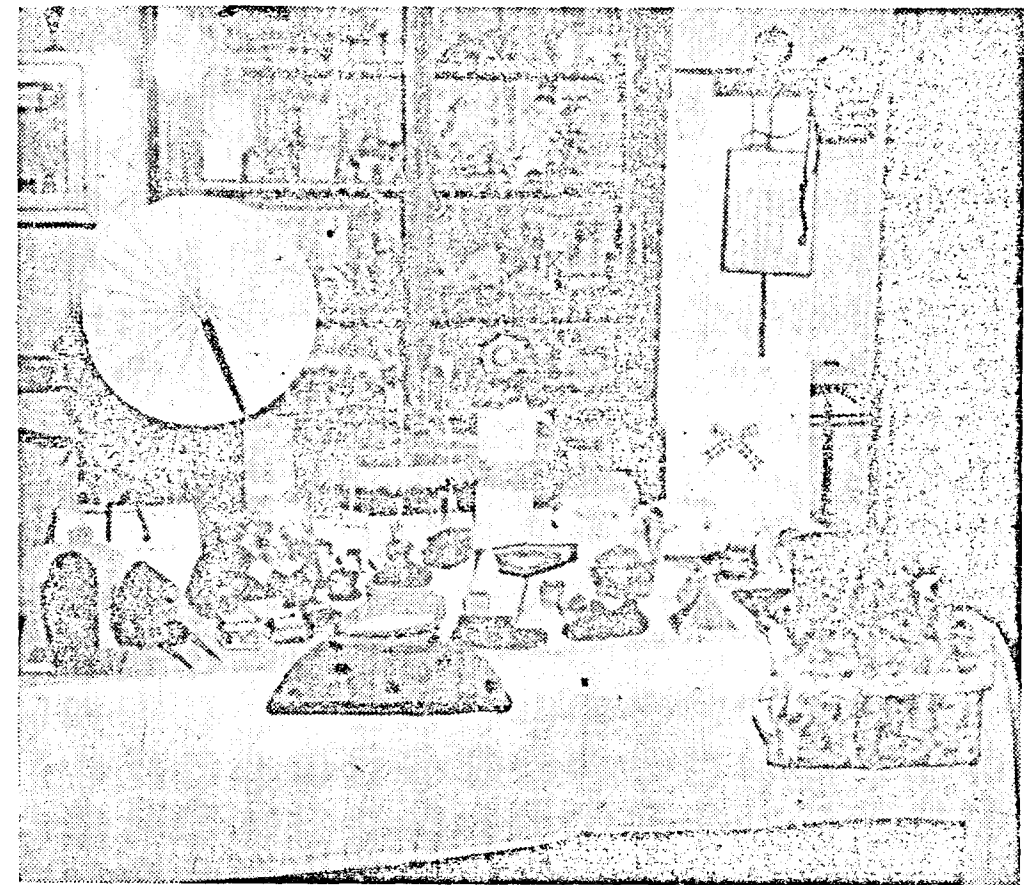
difficult as she may have to deal with some children who are already familiar with school routine and others who have not had that opportunity.

The teacher should further collect as much information in the way of case history about each child and attempt to gain as much knowledge as possible of its abilities and aptitudes, and its attitude towards the home and the school. By contact with parents during visiting hours, the teacher may endeavour to gather details regarding the child in relation to its family and other groups. The home visits also help her to study the economic and social status of the family and the attitude of parents towards children in general and their views of their education in particular.

With these teaching requirements in mind, two teachers were selected and put in charge, one each, of the two wards in this Hospital for children in which the present educational programme is con-



Bedside instruction is given to children with bone T.B., who are not allowed to move out of bed.



Making these little knick-knacks gives the hospitalised children a great sense of achievement and satisfaction.

ducted. The teacher in charge gives bedside coaching to practically all of them. Thus there is individual instruction and not much of group teaching.

tions of child patients in the particular medical setting. The entire programme is thus designed to meet the individual needs of each child patient.

The teacher is also supervised and helped to know how to handle the child patients with their peculiar emotional, social and physical problems. Dr. (Mrs.) Kamala Bhoota, a specialist in child education and a member of the Faculty of the Tata Institute of Social Sciences, supervises and guides the two teachers on the educational side of the project. And Dr. (Miss) G. R. Banerjee, also a member of the Institute's Faculty who has specialised in case-work study, advises them on questions of emotional and physical reac-

A Ray of Hope

Before this scheme was put into operation here early in 1949, the child patients used to lie listlessly in their beds. They had nothing to look forward to but the hospital routine. They lay there debarred from all the joys and adventures of school life and of the world outside. They lay in bed for months and years with no one even as much as to tell them a story. Now all that has changed. These young patients have today a gleam in their eyes. They are bright and lively. Each day

gives them happy memories of work and play with other children and with friendly teachers. And each morning they start with happy anticipation of new creative experiences. This transformation of the atmosphere in the hospital has been brought about by the new project of education and play which has been instituted and conducted by the Tata Institute. Paying a visit to the hospital in March, 1950, Mr. B. G. Kher, Chief Minister of Bombay, said "When I last visited this hospital I was overcome by the misery which each bed represented. The work done during the brief period of one year is marvellous and the programme has not only contributed to the educational well-being of the children but also has infused in them joy and a new interest in life."

Encourage self-expressions

It should be mentioned here that any educational programme for handicapped children should not emphasise scholastic achievement alone. It should rather be designed to encourage self-expression and joyful participation. The project should also include entertainment for the child patients. For instance, in the present experiment a cinema show is arranged every month. Also some child dancers are invited to give a performance now and then.

The project has been in operation for over a year and a half. Yet judging from the educational progress and cheerfulness of the young child patients the results

seem very gratifying. A new chapter has been opened in their lives in the Bai Jerbai Wadia Hospital.

There are many hospitals in the country which have a section for children. Many of these child patients, such as, T.B. and orthopaedic patients, are required to spend months and years in bed. They may have regained their health when they are discharged; but their mental development having been ignored, they cannot cope with those of their age group in school or in every day life. These conditions are likely to affect their adjustment to their groups and changing social situations. And instead of being a social asset they may become a liability. Therefore, it is essential that some kind of educational and activity programme be organized in all children's hospitals in the country, so that the child patients, while under treatment for their physical ailments, are not cut off from the normal stream of life. A wisely conducted programme of creative work, learning activity, and entertainment will bring to the hospitalised children the opportunities to grow mentally and also enhance the therapeutic value of medical treatment.

Therefore efforts to provide educational facilities for bed-ridden children should be encouraged in hospitals in all parts of India. The project, started last year in the Bai Jerbai Wadia Hospital would, it is hoped, serve to stimulate such provision elsewhere in the country.

Scientific Forecast of Cholera Epidemics

Sir Leonard Rogers was the first to forecast correctly epidemics of cholera in the Provinces of India as regards their intensity. He correlated the state of the epidemic with the previous rainy season during the years 1930-33 in 15 different provinces of India.

The basis upon which Sir Leonard Rogers based his forecast was that a poor

rainy season is followed by stagnation of water, a high atmospheric humidity and famine. If Hindu pilgrimage takes place in such a season and the pilgrims pass through an area of endemic cholera, a severe epidemic will occur in the non-epidemic areas to which the pilgrims return.

EPIDEMICS IN ANCIENT INDIA

by

"Kaundinya"

A common complaint is advanced by modern medical men that in Ayurvedic medicine, though much attention has been given to personal hygiene, there is not enough treatment on the subject of public and social hygiene. The complaint is not completely true. It is true, that greater attention has been given to personal hygiene, not only in medical texts but also in Dharma Sastras and Grihya Sutras. These latter books have influenced the people to a greater extent than the medical texts. For, Dharma Sastras and Grihya Sutras were read by everybody as a religious precept, whereas medical texts were read only by a selected few. There were reasons enough for the lack of development of what is called public health. In the past, India was greatly a country of villages. Each village was self-sufficient in its economic, social and hygienic needs. There was no need for a protected water supply scheme, when there were natural supply of water from rivers, springs, wells and tanks and these were not defiled. It had its unit of burial grounds and method for the disposal of dead bodies. What to do in cases of epidemics are described in Smritis and in medical texts. But it would be unfair to criticise Charaka or Susruta on the ground that they have failed to give instructions on public health. Many of the modern problems of public health due to industrial organisation, had not existed in ancient India, and so Charaka or Susruta had not tried to solve these problems.

In ancient India, there was great advancement not only in Religion, Philosophy and Literature, but also there was a great advancement in the field of Medicine. I am not comparing the advancement of Medicine with the present day advancements made in Medical Science, but only want to emphasise the broad fundamentals on which the medical science was based could be compared favourably with any system of medicine obtainable then or now.

As such there is also mention of epidemics in the earliest of Ayurvedic books, Charaka Samhita (6th Century B.C.) It goes by the name of 'Janapadodvamsa' or destruction of the population in towns and villages by certain diseases.

People are of different temperaments, take different food stuffs and have different avocations, and in spite of these differences a particular disease attacks all of them at the same time. For this, there should be some important causes, and these causes are atmosphere, water, climate and seasons (Vayu, Udakam, Desa and Kala). Water is considered more important than atmosphere, climate is more important than water and seasons are more important than climate. One can avoid a particular atmosphere, purify water and use, leave one climate to another, but one cannot avoid the seasons or the Kala.

The cause for such pestilences is adharma of the rulers and the populace.¹ The ruler and the ruled are one and if one does things that are not enjoined by the dharma sastras, they affect the other also.

Though this destruction of population of the villages and the towns is considered due to adharma and the consequent angering of Gods, it is not considered as unavoidable by human effort. The greater the human effort these pestilential diseases become weaker and as a result the longevity of the population is secured.

The greatest contribution that Ayurveda has made, is its conception of man. Its conception is that man is mind, soul and body (Satvam Atma Sarira). These three are pillars which support a building and if one pillar is affected naturally the others also are weakened. In modern medical

¹ Vayavahinani yadvaignyainitapadrate tsaya mulumadharmaha! Cha. Vima. III.

science, it is only recently that people have come to recognize the psychosomatic concept in diseases. As it is likely the mind is disturbed in times of great stress and anxiety as during epidemics, instructions are given not only to keep the body pure but also the mind. Charaka says that during the times of epidemics, observance of the following rules would help a person to protect his life. "Truthfulness, compassion to living beings, gifts, offering to God, observance of good conduct, control of oneself, doing good and helpful to the people (Janapadaram), continence (Bramhacharya) and following the dharma sastras and learned people, are the medicines (Bhesajam) to protect life."²

In the above list one will find that more emphasis is laid to strengthen the mind than the body. The psychological effect that is produced in the mind of an individual is great. It is well-known that most of the epidemics visit people in the slums and those who are in the lower rungs of social evolution. For these people, faith in dogmatic religion is greater than in scientific reasonings. Therefore many of these epidemics are attributed to one or other of Kshudra devatas. So in times of epidemics certain communal offerings are made to these deities. Absolute cleanliness is enjoined during the times of these offerings. Bramhacharya is to be observed. It is believed sex indulgence will weaken a person and a physically weak person has got more chance of getting the infection than a strong person. It is the custom in villages that only middle aged widows are allowed to visit a person suffering from small-pox and attend on him. There is less risk for them to get the infection. If an epidemic comes to a village and if an

individual suffers from a particular disease, the whole village join together to drive the disease outside the boundaries of the village. Each village has a boundary presided over by a deity called 'Ellai- amman'. Epidemics are considered not as an individual affair but an affair of the whole community.

I will take two diseases to illustrate how the janapadadhvamsa rogas are prevented and cured according to Ayurveda.

MASURIKA (SMALL POX)

Masurika or small pox is due to vitiation of atmospheric air (Vayu). The disease is called masurika as the eruptions appear like masura—bengal gram. There are many varieties of this disease according to the appearance of the rashes and the signs and symptoms.

There are five varieties according to the vitiation of doshas. There is a variety called Charma Dala (Confluent type) which is considered more serious than the other types. Another variety is called Roman- tika, (Measles) where the rashes appear in hair follicles.

This disease comes due to two factors, the intrinsic or subjective causes and the other extrinsic or objective causes. Among the intrinsic causes eating of too much of sour, saltish and pungent foods may be mentioned. Among the extrinsic causes vitiated atmospheric air, cruel Bhutas (Krura bhuta Graha) and other doshas (poisons) that pervade the country.

Masurika does not confine itself to the slums. It affects all the people in a village and of all ages. It is generally considered that it is due to excessive heat and as such all food stuffs, that will increase the heat is not given to him. The patient is isolated and nobody is allowed to visit him unless he is middle aged and had already suffered from the disease.

Bramacharya is strictly followed by every member of the house-hold. The mythical version is that, the presiding deity of the disease is a widow and she would become angry if there is sex indulgence in the house. But the real reason is that it will pre-dispose the person for the

infection. The house in the village where there is a small pox case is isolated. A bunch of margosa leaves is kept on the roof of the main door way. It is an announcement to the villagers that the house is infected and nobody should enter. Even the religious ceremonies where the presence of others are required are postponed. No body in the house takes oil-baths and get themselves shaved, because these acts also predispose the person for the infection. Even a person from this household is not allowed to visit others. So this becomes a quarantine.

Generally no medicine is given unless there are complications. Medicine or no medicine the disease should run its course. Every day the bowels are moved by suitable dieting. Itching is warded off by margosa bunches and vesicles are not injured for the fear of causing pits. Offerings to gods and the poor are done according to the ability of the person and continuously a psychic atmosphere is created by which the patient feels, that with these aids he is sure to become well, and with this strength of mind he gets well quickly.

If when death occurs, the body is buried, even though the person may belong to the community where usually cremation is done. This may indicate that the people were aware that smoke emanating by cremation may spread to a wider area and the contagion may spread.

Vishuchika—Cholera

I will take another disease which is transmitted by Udaka (water) and Ahara (food). Certain instructions are given to find the purity of water. Gangodakam is considered best. It is the rain water collected and exposed to sun, moon and wind. The purity of it could be found out by putting the water in a silver vessel and placing boiled rice in it. The rice should not disintegrate and change its colour. That water is good for drinking and for other purposes. This may be considered as soft water, otherwise it is hard water, (samudra) and this water should not be drunk excepting in the month of Aswayuja. (October-November) During these months due to rains all the waters become less

hard. The water should not be covered with grass, leaves etc. It should not be frothy and full of fresh rain water. Defiling the water is considered bad and Manu says the following: Do not pass urine and feces in water, do not spit in it, do not wash clothes dirtied by urine and faeces nor allow blood or poison to get into it"³

If pure water is taken this disease could be prevented. So also carefulness in diet is necessary. If a person takes moderate quantity of food, this disease could be prevented. This comes only to those who are unable to control their desire to eat and eat any kind of food.⁴

The important signs and symptoms in this disease are pain in the abdomen as though pricked by needles, diarrhoea, vomiting, thirst, vertigo, unconsciousness, discoloration of the body, pain in the heart region and in the head.

If this disease comes in any village people do not carry food to other villages and even strangers who visit the place are not allowed to eat. As far as possible, people eat as soon as they cook the food. Even vegetables grown in that infected village do not find a market in the neighbouring villages. If for any reason the disease is not controlled, people leave the village and live for a few days in the neighbouring plains and gardens. By this way they change their environments, cook in new mud pots etc., and control the disease.

Charaka gives a few aphorisms regarding how a person should eat and they are:—

1. Ushnamasniyat—eat when the food is warm
2. Snigdhamasniyat—eat with enough of fat
3. Matravedasniyat—eat according to the requirement
4. Jirneamasniyat—eat when the previous meal is digested

³ Napsu mutram purisham va shtivanam va s amutram bh. Amudha lipra mrapad va lchitam va vishani va Manu Ch. IV-59.

⁴ Namam paripellahara labhante Viditaganaha! Mudhatamajitmanam labhante asanalalubhah!!
Madhava nidana.

² Satyam bhute daya danam balayo devatarca nam.

Sadvritthasyanu Vrittasca prazamo Guptirat- manah.

Idam Janapadanam cha Sivanamupa.

Sevanam.

Sevanam brahmacaryasya tathaiiva brahma- charnam.

Sangtha dharmasastranam maharshinam jitat mananam.

Ityetat bhesajam proktamayusha paripalanam Cha. Vima. III.

5. Viryaviruddhama asniyat—eat not uncongenial food
6. Ishtadese asniyat—eat in congenial atmosphere.
7. Natidrutam asniyat—do not eat very hastily
8. Nativilambitam asniyat—do not eat very slowly
9. Ajalpannahasan tanmana bhunjita—do no discourse nor laugh while eating and eat with your mind on what is eaten.
10. Atmanam abhisamikshya Bhunjita Samyak—Consider your own meals and eat well.

(Vimana Ch. 1).

If a person follows the above rules properly, one can be sure of avoiding the communicable diseases. By intimate inter-

course with a diseased person, touching one another, by breadih, eating together sleeping and sitting on the same bed and wearing the garments, the communicable diseases (Sangramikarogas) spread from one person to another.

(Madhava Nidana.)

There are a few things which when followed one can prevent most of the diseases. "Take always congenial food; act properly; do things after deliberations; do not attack yourself to desires, be liberal, maintain equanimity, be truthful and tolerant, follow the wise, then there will be no disease." 5

5 Nityam hitahara vihara sevi
Samiksya Kari Vishayeshvasaktah!
Data samah satyaparah kshamavan
Aptopa sevi cha bhavatyarogah! !

Ash. Hrl. I-IV.

INDIGENOUS MEDICINE

The very name Ayurveda means the knowledge of life in its entirety i.e., body, mind and soul. Another claim, equally great, is that from the very outset, Ayurveda has taken as its objective not merely the cure of disease, but the prevention of ill-health, and the promotion of health of those who are well, i.e. maintenance of positive health. The Health Survey and Development Committee has stated that the indigenous systems lack in the knowledge of Hygiene and Sanitation. It is however, evident from the arrangement in the Ayurvedic classic, such as the "Ashtanga Hridayam", that a place of honour has indeed been given to rules of hygiene and sanitation for those who are well—*Dinacharya* (rules of daily conduct), foods, drinks, etc. and it is only after these have been dealt with, that we are introduced to *Chikitsa* (Curative Medicine) necessitated by the non-observance of the rules of hygiene and preventive medicine mentioned earlier. Ayurveda, thus goes beyond the scope of modern medicine which has been defined as the "Art or Science of healing disease, especially the healing of disease by administration of internal remedies". (Dorland: Medical Dictionary). Even the definition of Tibb (Medicine) given by Bu Ali Senna (Avicenna), the great Persian Physician

980.1036 A.D. goes beyond the modern definition: "Tibb is a branch of knowledge which deals with the states of health and disease in the human body for the purpose of adopting suitable measures for preserving and restoring health." Indian Medicine therefore concerns itself not only with the cure of disease but with the preservation of health. Thus, it will appear that centuries earlier, Avicenna, as before him the Ayurvedic masters, practised what modern medicine has only perceived in recent years. It is also clear from the works of Avicenna as from Charaka that medicine must look to the man as a whole and not to the part that is diseased or the function that is disorganised. They also gave due importance to the "Soil Factor", which has come to be recognised only recently. Western medicine has chiefly considered the study of disease as the result of outside agencies like the microbes. Indian medicine considers disease as a state of disharmony in the body as a whole and a result not only of the external factors, nor merely of the internal factor but of the interaction between the various internal and external causes.

—Committee on Indigenous Systems
of Medicine.

MY CONCEPTION OF A CITY

by

A. Raghava Reddi,

Chairman, Madras City Improvement Trust.

TO me the city is a family—a big family; At one stage it was a single family, multiplying itself into several families, in the course of time. It was next a group of families, then a village, after that a group of villages, next a town and then a group of towns and finally a city, like the one in which we now live. This city, as we all know, has a physical form, and the houses, the huge structures, the trees, and so many things that we see, are manifestations of the human spirit. The city is a place where men and women have come to meet, congregate, live and work together. In a family, several members work in their respective spheres, each doing his allotted work and even so, in a city, several people have to live, and work for their common good. No individual can survive in isolation; the blacksmith, the carpenter, the barber, are all living independently in a sense; yet they are dependent on one another; all of them are again indispensable for the good of the society just as several limbs are to the body. The members of a single family are bound together, by bonds of affection and even so, several families in the city are bound together by bonds of co-ordination and joint effort, which alone conduce to the good of the society.



The Ideal

In the city of my conception which must cater to the needs of all the inhabitants, there can therefore be no slums; none should live in streets or public places. Every family must have a dwelling, however small it may be, where it could live with comfort with proper space to eat, and sleep and suitable provision for privacy. There should be no concentration in the city; and the centres of activity, should be spread out and accessible easily to all the inhabitants; nor can there be any segregation. It should be a fabric that has been woven with both silk and cotton threads, producing a texture, which is impervious to the vicissitudes of time. To sum up, the city of my conception is a city that is built on a family concept. It is my ideal.

Not Mere Physical Forms

The above is my conception of the city which I have before my mind and which I commend to my friends. I quite realise the difficulties that confront the planner in building a city which conforms to the above description; but I feel that human ingenuity is not bankrupt. It is quite capable of mastering the circumstances or circumventing them, if need be. I have a strong conviction, that a city built on these lines will not be liable to decay as

easily as a city that is built on paper plans to a physical form. To build an everlasting city, the family concept should form the basis. A city should not be a mere physical form. The skyscrapers and huge structures cannot make a city; Nor cement roads; Nor Marinas; An atom bomb is powerful enough to annihilate these physical forms and instances are not wanting to prove this, but I must say an atom bomb cannot kill the spirit, and the culture of a city, which is built on a social order. Again it is environment and purposiveness that will prevail when destruction comes in; Nor will it be difficult to rebuild such a city even if unfortunately such destruction should come in, provided the foundation has been laid on a social order. In the matter of planning our future cities, our endeavour should therefore be to solve the problem of bettering life and its environment. This aspect should be given prominence over physical forms. A city should not be a matter of area, wealth and segregation. Therefore in building cities of to-morrow, great experiments will have to be conducted. We must now realise the great need for adaptation to suit the changes that are coming in rapidly. Everyone must have been convinced by this time that the need for such an adaptation is imminent.

Catering to Classes

One should realise that it is no longer a question of haves and have-nots. It is a question of all surviving, or all perishing. It is a question of one thing dovetailing into the other. In the matter of housing families in proper buildings and living units, a new order, a new technique, a liberal outlook and a big forethought, are all absolutely necessary. And so, big experiments have to be conducted in achieving this object. I may here strike a note of warning to the organisations that are launching upon housing schemes, which do not cater to the needs of the society in general. I have already referred to before that segregation is dangerous, and instances are not wanting where slums are coming up by the side of housing colonies that are intended for the pri-

ileged. What does this mean? It categorically proves that, our method of solving the housing problem is fundamentally defective. Let me therefore warn such organisations that they are courting trouble in undertaking such schemes, which do not conduce to the general well being of the society. In the housing schemes that we plan for the future, there should therefore be provision for an intermixture, of high and low, rich and poor and good and bad.

Basis of Planning

In the matter of planning our cities we have therefore to evolve a new technique. Economy and architecture must play an important part. We have to plan for an age of synthesis, integration and construction, in which planning and architecture must play a very dominant part. I may venture here to say that architecture is going to be the main guiding principle of modern economy. The problems that confront us, in the matter of housing the people of the city, are stupendous. Such being the case, we have naturally to think of a new order, and architecture must come to our aid, in solving this huge problem. Take for instance the housing needs of the city. We have to build houses in thousands. Unless we hit upon an economical way of building them, it will be well nigh impossible to solve the housing problem effectively. In solving this problem, it is not the material or its strength, that should count. We will have to think of new concepts and new designs and new techniques. Our aim should be to secure lighter materials, which have comparatively greater strength, and build houses at reasonably cheaper cost. At the same time we cannot allow our dwellings to be mere shells. It is here that architecture plays a very important part. When we plan the cities, we have to keep in mind the numerous slums that infest them and thousands of our brothers and sisters that lie in the streets, road margins and open spaces. We have to predetermine the city and also plan for mass construction of houses. We may perhaps have to plan to construct groups of houses and gardens,

alternating with each other. **In future it is a question of providing every family a designated space to move about freely and enjoy the benefits of nature.** It is no longer a question of putting family over family, in what we call vertical structures.

No Skyscrapers for Us.

Families are not sardines to be packed. I must digress here a bit. I am aware of the divergent views that are held in the matter of housing the population that inhabit the city. Vertical development and independent houses have both their merits and demerits, and my own feeling is that vertical development is good, where life has been mechanised or where there is dearth for space; and in cities which are not much advanced in the matter of industries and mechanisation, it is far better not to go in for vertical development. Especially when there is plenty of land available at comparatively cheap cost one wonders why people should think in terms of vertical development and caging families in big structures depriving them of their right to move freely and enjoy nature. It is a misconception to think that vertical development is cheaper. What about land values in developed portions of the city where it is proposed to put up vertical structures? When compared to this kind of development, horizontal development will be less costly and ultimately be more conducive to the healthful living. I am aware of the need to provide amenities in the undeveloped areas. But surely all amenities are not provided at one time. They could be provided as and when people occupy the areas; and it should not be difficult to make suitable provision in course of time. Above all vertical development has got the disadvantage of making life mechanical, let alone the hardships it will cause to our people who will find it a hard thing to continually move in a plane perpendicular to the usual. So in the matter of providing dwellings to our teeming populations, we have to think in new terms. I have indicated at great length the need for adaptation and fundamental change in outlook, in planning our cities and I must emphasize once again that due

prominence should be given to the social order in planning cities and not to the physical form. The future of our cities will depend mainly on the opportunity that we provide for co-operative living. It is a matter dependant on the co-ordination of human values. There can be no place for exploitation and monopoly. Unless cities are built on a new concept in such a way that they provide equal opportunities to all the inhabitants to live a happy and healthful living, their decay is certain.

Alive to Facts...

I now refer to the part that the City Improvement Trust can play in this regard. The City Improvement Trust which has been created for the purpose of planning for the expansion and growth of the city, providing open spaces for the purpose of ventilation and recreation, finding housing accommodation for all classes of inhabitants, and removing slums, should have an opportunity, nay, the sole responsibility, to plan a city of my concept. This Trust which has the above mentioned object in view is aware of the magnitude of the problems that confront it, in the matter of planning for a City which can stand the test of time. It is alive to the fact that test of time. It is alive to the fact that, there are more than 20 thousand families living in slums. It is also alive to the fact that large number of people are living on the streets, road margins and open spaces, much to the discomfort of the public and disgust of the visitors. It has, therefore, undertaken both social and physical surveys to correctly assess and secure a basis for preparing its future plans. It has already framed a number of small schemes without waiting for bigger plans. In the schemes that have been framed so far provision has been made for suitable playgrounds, open spaces, community centres, and the like, care being taken to avoid segregation. It has been the effort of the Trust to secure that social atmosphere which is so essential to the welfare of the city life. Schemes are being framed on the conception that several members who inhabit a locality are in a sense members of the family and that they will have

to produce a co-ordinated effort, to make life enjoyable.

But Cramped by Difficulties

It is of course necessary to prepare a comprehensive plan, or call it a Master Plan, for the future city, but for obvious reasons, the Trust is unable to take up this. So schemes are being framed for small areas in such a way that they could easily be made to fit into a bigger plan. The Trust has no doubt reversed the order; rather it is obliged. But in this changing world, procedure must necessarily change, and it may not be out of time, if the Trust has been experimenting to begin at the other end. As long as the object before it is clear, and the effort *bona fide*, there is no reason to doubt the results. The Trust is however conscious that its finances do not allow it, to embark on costly schemes and hence the reason for starting with small beginnings. It is indeed a good thing to plan for the entire city at one stage and build for the entire population at one time, but having due regard to prevailing conditions both in respect of finance and materials, big schemes have to be ruled out for the time being, as impracticable. I hope the public will appreciate the peculiar position with which the Trust is confronted. I must, however, admit most painfully that it has not been possible so far for the Trust to show any appreciable results. It is mainly due to one reason. You will appreciate the fact that, the first prerequisite in the matter of providing housing accommodation is the availability of land.

The Stumbling Block

By this statement, I do not mean to say, that land suitable for housing is not available in Madras. Fortunately for us, we have plenty of it. It is not a question of dearth of land, but it is a question of securing it. It is most unfortunate that there is no adequate Government land on which the Trust can lay its hand immediately and use it for the purpose of its schemes. It is mostly a question of the Trust securing some land, through acquisition and it is here that the biggest bottleneck has set in. Steps are however

being taken to expedite acquisition. Action is also being taken to acquire land by private negotiation in order to eliminate delay in the acquisition by official agency. Even here difficulty is experienced because land owners are not willing to part with their lands at reasonable cost. It is here that I appeal to one and all that possess extensive lands that it is high time for them to part with their lands at reasonable cost to the City Improvement Trust, which is planning for an effective solution of the housing problem. I must in this connection also appeal to organisations, which are in a position, to help the Trust, in solving the problems of housing the poor and removing the slums. How I wish to see rich and generous gentlemen construct small houses for the benefit of the homeless and rent them at small rents! While their money is safe as in a current account, they will still have the benefit of 1% interest and extreme satisfaction of providing houses to their own less fortunate brothers and sisters.

No Free Dwellings

I am not one of those who feel that housing accommodation should be given free of cost to anyone and everyone who comes to the city. The feeling that is entertained by some that they will be housed at the cost of the State or at some others' should be corrected. While everybody has a right to live in the city, they must realise that they have no right to ask for free dwellings. These people will have to be told definitely that they have no place in the City, if they cannot pay reasonable rents for the dwellings which are provided for them and public opinion must come forward to tell the Government in convincing terms that it is high time that effective steps are taken to prevent or at least discourage further influx of population into the city. These are the problems that are confronting the Trust and you will appreciate that the task assigned to it is by no means light. Notwithstanding these discouraging factors, the Trust will work and time will convince all that it has not failed to discharge the responsibilities cast on it.

REPORT OF THE ENVIRONMENTAL HYGIENE COMMITTEE HIGHLIGHTS AND SIDELIGHTS

by

A. V. Raman

This is the third of a series of articles on the subject. The first two appeared in the October and November 1950 issues of *People's Health* (Vol. V. Nos. 1 & 2).

—Ed. P. H.

IN my letter dated 25th April 1948, I made pointed reference as to my ignorance about the composition of the proposed committee and added that "much depends upon the lead which the chairman of the committee would give to the members of the committee." I took care to add 'Personally, it would be quite possible to complete the work in good time before the conference of Health Ministers' which was expected to be convened in August, 1948.

The reply of Dr. Jivraj Mehta is therefore very significant. In his letter dated April 29, 1948, he wrote as under:

"My dear Mr. Raman—Many thanks for your letter of the 25th April 1948. The other members of the committee are:

1. Dr. B. C. Das Gupta, Deputy Director General (Public Health), Govt. of India.
2. Mr. N. V. Modak, City Engineer, Bombay Municipality.
3. Prof. K. Subrahmanyam, All-India Institute of Hygiene and Public Health, Calcutta.
4. Mr. R. S. Mehta, Superintending Engineer, Delhi Province.

Mr. Mehta will be the Secretary of the Committee.

I am glad that it will be possible according to you to have the report of the committee ready in time for the Health Ministers' Conference in August.

I am glad you are giving attention to the draft questionnaire and shall be glad to have it as soon as it is ready.

—Jivraj Mehta."

From the wording of the letter, no reasonable doubt is cast as to the name of the person who should be the chairman of the committee. The wording of the letter, it would be observed, is not as straight as one would expect. I sent a telegram on the 6th May, 1948. I followed it up by a letter on the same date. I was racing against time to complete the questionnaire of so comprehensive a nature. Thus the entire responsibility for the preparation of the questionnaire was my own. On the 10th May, 1948, when the draft-questionnaire was ready, it was too late to be despatched by Air-Mail that day. I therefore sent it through Mr. T. T. Krishnamachari, who was leaving Madras for Delhi on the 11th May, 1948. I take this opportunity of conveying my thanks to him for agreeing to take the questionnaire and to hand it over to Dr. Jivraj Mehta. I may incidentally mention that the questionnaire covered thirty-seven sheets in type-script. I give hereunder the full text of my letter dated 10th May, 1948 with which I forwarded the draft-questionnaire.

"My dear Dr. Jivraj Mehta—I had been racing against time to complete the set of questionnaire on the proposed draft terms of reference to the proposed committee. I have just completed a draft and I hasten to despatch it to you by Air-Mail to-day to keep up my promise.

As you can well imagine, I had not the time to chew the cud as it were. I have no doubt that you will appreciate the difficulty in a single person covering the entire field of so complicated and comprehensive a subject as environmental hygiene. But I have tried my level best within the brief time I had before me.

One or two suggestions occur to me in regard to the questionnaire. Do you not think it advisable for all the members of the committee to have their say on the questionnaire before actually issuing? The second suggestion is that, along with the questionnaire, the terms of reference may also be printed with a request that the persons invited to answer the questionnaire, may not go beyond the strict terms of the questionnaire and offer opinions on any matter covered by the terms of reference. This would enable the persons invited to assist the committee, to have their full say on any special subject, which they might have studied as a speciality.

From a perusal of the questionnaire, you will find that I have dilated upon 'Housing and Town Planning' and also on 'Food'. In regard to other matters, I have set the questionnaire in a form which would help further elucidation when the committee meets certain select persons who would be in a position to offer helpful suggestions on details.

You have not included the 'Organisation and Training of Public Health Engineers' which should be the pivot of the entire plan. I have set a few questions on the subject with a view to eliciting information. If you consider that the addition of the 'Organization and Training of Public Health Engineers', though implied in the terms of reference, should be specifically included in the terms of reference, kindly do so. Please do not hesitate to interrogate me on any of the questionnaire I have set for your consideration.

I have had the benefit of consultation with one or two friends, who have made a special study of certain subjects. In

the matter of Finance, I am indebted to Mr. T. T. Krishnamachari for his suggestions. He was good enough to offer to tender evidence before the committee on the subject. He told me that one or two other friends also should be invited to tender evidence on all important questions of finance.

Mr. T. T. Krishnamachari is leaving by air to-morrow morning for Delhi to attend the preliminary meeting on the question of Sterling Balance. I am sure he will meet you and have a talk with you.

With kind regards and best wishes,

—A. V. Raman."

Dr. Jivraj Mehta was prompt in acknowledging receipt of the questionnaire. I gave below a copy of his letter dated 12th May, 1948:

"My dear Mr. Raman—I have to thank you for your letter dated 10th May sending therewith the questionnaire on the proposed draft terms of reference to the Environmental Hygiene Committee. It is indeed a lengthy document that you have sent and I am grateful to you for the trouble you have taken.

The idea is to send a copy of the questionnaire to the members of the committee with a request to let me have any suggestions that they may have to offer so that the same could be placed at a meeting of the committee to be convened, very likely, on the 1st June for finally settling the questionnaire and such other matters as may be considered advisable to take up for discussion at the meeting.

I note what you have written on the question of the 'Organization and Training of Public Health Engineers'. I am glad that you had the benefit of discussion with Mr. T. T. Krishnamachari and other friends in the drafting of the questionnaire. I shall try to contact and talk the matter over with him, if possible.

With kind regards,

—Jivraj Mehta."

It was only after despatching the draft-questionnaire I had time to wade through the type-script. I found a small error in typing. I took care to write to Dr. Jivraj Mehta to have those trivial corrections carried out in the draft already sent to him.

I replied to his letter dated 12th May 1948 immediately I received it, on 15th May 1948. Here is the full text of the letter:

"My dear Dr. Jivraj Mehta—It thank you for your letter dated 12th May, 1948.

Yes, the questionnaire is rather a long one. I have deliberately framed the question in some detail. Based upon my experience of the questionnaire set by the Bhole Committee, I considered it wise to set the questions in detail rather than leave it to the witnesses to answer in

their own way. It will be found that the answers will lead to more intelligent collation of all information under relevant heads, so that formulation of a Master Plan might be facilitated.

I note what you say about convening the first meeting of the committee on or about the first of June for finally settling the questionnaire. You know that I am frightfully busy and that I should like to have some notice in time to enable me to arrange for my work here.

I am sure that T. T. K. would have found time to meet you and discuss with you. He promised to do so.

With kind regards,

—A. V. Raman."

Editorial . . .

(Continued from page 94)

Coming to the powers given to the District Health Officer, the President felt grieved that the executive authority was reduced to the position of a registering authority for the actions of the officers. If what he wants for the executive authority is the power to execute the subordinates, it is not likely that he will get it!

In short, a case was made out for more and still more 'powers' for the District Boards to create a number of *Chota* Chief Ministers in the mofussil! Had we only known that the Chamber would take up cudgels against Government demanding this and that, we would have advised them to agitate for one more thing with justification.

The Water Supply and Drainage Committee had expressed the view

that the responsibility to provide our rural areas with water-supplies lay primarily with *State*. This was accepted after a fashion by Government. The Chamber of District Boards would have done well to pin Government to its words and demand that steps be taken at once to implement the Committee's recommendation and start giving the Districts what God had given Man.

After all, the Government will continue to "view favourably" whatever muck the District Boards say—at least till the elections—for they know most of India's voters come from rural areas and their displeasure would mean much more than the satisfaction of the easily pleased, sophisticated society people that infest the capital cities!

HOW TO PAY YOUR DOCTOR ?

by

The American Correspondent of *The Indian Medical Journal*.

We may in this connection, invite the attention of our readers to an article entitled "Medical Fees" by Sri T. N. S. Raghavachari that was published in the January 1948 issue of *People's Health* (Vol. II, No. 4).

—Ed. P. H.

Unusual Medical Fees Through the Centuries

Doctors' fees have always aroused the public interest. For while many doctors have given their professional services to the sick almost or entirely free, other doctors have become rich through their art in a few years. There were times when the fee for a confinement was delivered in the form of hay at the physician's barn,—and countries where jewels and gold were poured in the doctor's hand after a successful cure. The problem is particularly interesting in our days when the question whether private fees or payment by the community are most suited in modern treatment of the sick, is becoming more and more a crucial problem in the development of the physician's social position.

The Biggest Fee that a Doctor Ever Earned

The biggest medical fee ever paid was probably paid to Dr. Thomas Dimsdale, contemporary of Edward Jenner who in 1792 (not 1796, as frequently told) made the first scientific vaccination against smallpox. Dr. Dimsdale learnt the practice of vaccination from Jenner himself. Catherine II., Empress of Russia, sent for the British doctor asking him to bring along the effectful vaccine. Catherine was a woman of rather doubtful morality, but bright and able and governed her country very successfully. She did everything in her power to preserve her beauty,—and smallpox at that time was considered a most sinister threat to beauty.

Dr. Dimsdale though actually he knew very little about Russia,—except that

travellers were chased by wolves in that barbaric country,—made the long and hazardous trip to Catherine. After he had spoken to the very frank and outspoken empress, he was somewhat doubtful about his own fate in case the vaccination did not succeed. However, everything went alright, and no complication brought discredit to his operation which was still unusual at that time.

Catherine did not fail to show her gratitude in sounding money. Dr. Dimsdale immediately received a fee of Pf. 10,000—a tremendous sum at the end of the eighteenth century,—besides £ 2,000 for his travel expenses. Furthermore he was to receive £ 500 a year for the rest of his life from the Russian Imperial Court. A diamond miniature was included in the fee to lend more dignity to the imperial gift. And still all these monetary values seems to Catherine insufficient recompense for the doctor's success,—so she added what seemed to her an even more significant token of her gratitude. She gave to Thomas Dimsdale the right to add to his armorial bearing a wing of the Russian Eagle, and this his descendants bear to this day.

Medical Fee: Rent of House or Loss of Hand

More than four thousand years ago the Code of the Babylonian King Hammurabi, one of the most enlightened law compilations of ancient times, had fixed a detailed schedule for the physicians of his country. Doctors were priests as well in those ancient times, and these priest-doctors were appointed as royal officials with a

fixed salary. They were bound to treat sick people without charge,—operations, however, had to be paid by the patients.

According to King Hammurabi's Code the doctor was entitled to a fee of ten silver shekels for a successful operation from a rich man, of five silver shekels from a middle class patient, and two shekels from a poor man. The silver shekel was an ancient coin of the value of about 60 cents American value. A doctor who had opened a cataract of the eye with a bronze knife and consequently had healed the eye, was entitled to a fee of ten silver shekels. That was a rather big amount of money,—because the annual rent of a good house amounted to five shekels. A skilled worker earned only 1/30 silver shekel a day.

But practice of the medical profession was not free from danger, the success of the treatment was decisive. Another paragraph of the Babylonian Code ruled that the doctor who caused the death of his patient by an operation,—or who was unhappy enough to destroy the eye during a cataract operation, was to be punished by cutting off the operating hand.

In ancient Egypt and India high medical fees were no rarity. The Indian Holy Book Vendidad has the rule: The doctor may heal a priest in return for a benediction, the governor of a county in return for four oxes, the governor's wife in return for a female camel, the major of a large city in return for a bull, and the major's wife in return for an ass.

Ancient Greece, on the other hand, had mostly community physicians whose salaries were raised by collecting taxes. These physicians were obliged to treat every citizen free of charge, but they were also allowed to receive private fees which frequently were given in kind,—not in coins or metal. It was customary in the temple of Epidauros, the noted shrine of Aesculapius, that the patients gave offerings to the temple when the cure was finished, e. g. a pig of silver or a silver reproduction of the limb or the part of the body which had been ailing.

Paying the Doctor in Ancient Rome

In ancient Rome sometimes very high medical fees were paid. Large Roman cities, on the average, had ten municipal physicians,—while middle-sized cities and small towns had seven and five municipal doctors respectively. It was the duty of these salaried doctors to treat the poor without charge, but they were allowed to accept fees from wealthy patients. Plinius, Roman naturalist in the first century A.D. relates that Quintus Stertinius, a famous doctor to several aristocratic families in Rome, had an annual income of \$ 30,000 at least. A fee of \$ 10,000 for a single successful cure of a rich Roman patrician was not unusual. This amount was paid by Manilius Cernutus, legate of Aquitania, for the successful treatment of his skin disease.

Several physicians-in-ordinance to the Roman emperors left a fortune of about 1½ million dollars (30 millions sesterii, one sesterius being worth about 4½ cent) when they died. But this was not all. The archiaters or public physicians were highly estimated. The archiaters of the Imperial Palace were sometimes promoted to provincial governorships, as happened to Ausonius, father of the poet, who became prefect of Illyria,—or to Vindicianus, the friend of Augustine, who became proconsul of Africa.

C. Stertinus Xenophon who is supposed to have co-operated in poisoning the Emperor Claudius (possibly by a meal of poisonous mushrooms or by means of a poisoned enema), bequeathed more than \$ 1,760,000 to his heirs. Quite a few physicians in ancient Rome used to manufacture certain nostrums and philtres for beauty and love,—for hatred and dreams. They were of course hardly of any real help, but they yielded big money. Crinas of Massilia who was more of an astrologist than a physician, left a fortune of about half a million dollars.

In the times of Julius Caesar (100 to 44 B.C.) the pay of Army doctors, including free board, amounted to hardly more than \$ 50 a year; under the reign of Domitian (81-96 A.D.) that pay was about \$ 66 a

year, and under the reign of Septimius Severus (193-211 A.D.) it was raised to about \$ 110 a year. In Caesar's times a doctor received only the equivalent of 65 cents for an ordinary visit. The buying power of money in Caesar's days was, however, twenty times greater than today.

"Silverless" Doctors

Under such circumstances we may well understand that the unusual behaviour of the two physicians (and later Saints) Cosmas and Damian was a great sensation at their time,—and probably a real shock to their colleagues. Cosmas and Damian were sent to the Christian martyrs' death by the Roman Emperor Diocletian (284-305) and were canonized in the tenth century. Any kind of fees were regodously excluded from their code, they gave all their professional services free so that they were given the surname "Anargyroi"—the Silverless Doctors.

Even in Roman times many physicians were unable to make a living by their practice. So they were compelled to look for other jobs and were busy as undertakers, grave-diggers or gladiators.

Galen, famous Roman physician, who lived from 130 to about 200 A.D., had an enormous practice,—it was great fashion to be treated by him, and he knew very well how to maintain and to consolidate his position as leading physician. Still he had some unfavourable experience with his wealthy Roman patients. Sometimes they lied to him,—just in order to test his abilities as physician. Galen, however, whose speciality was to make an exact diagnosis by feeling the pulse of his patient, and who attempted to differentiate 27 different pulse types, allegedly recognized a liar immediately by his pulse,—he was a living liedetector.

In the Middle Ages Frederick II. of Hohenstaufen (1194-1250), Emperor of the Holy Roman Empire, felt obliged to decree a medical fee schedule for Italy, his native country. The doctor, according to the decree, was bound to treat poor patients free of charge. On the other hand he was permitted to charge a fee, up to 60

centimes a day, for patients with means. The buying power of money in those centuries and up to the sixteenth century, was ten and twenty times that of today.

Earnings of an Alchemist

Competitors of doctors in the Middle Ages were alchemists and astrologists. A leading alchemist of the sixteenth century, Leonhard Thurneysser zum Thurn of Basel, was physician-in-ordinary to the Elector of Brandenburg. He received annually the sum of 1,352 thalers, a very high fee at that time. In addition, he received feed for his horses, clothing, free lodging and emoluments in kind. He earned still more through his alchemistic activities which were so extensive that he maintained a staff of two hundred people and travelled to his consultations in a carriage drawn by four teams of horses. For each of the medicine chests prepared by him, he received about 400 thalers.

Thurneysser earned enormous sums through the casting of horoscopes; the Count of Oettingen paid him 100 gulden for one. His fortune eventually amounted to more than 100,000 gulden. However, he could not cast his own horoscope as well as that of others, and did not foresee that ultimately he would lose his last gulden and thaler in a long-drawn law suit.

Abraham a Sancta Clara, popular Austrian preacher in the seventeenth century, was very angry about exaggerated doctor's fees in his sermons. He used to mention blamingly the French kings who paid as much as 10,000 ducats a month to their physicians-in-ordinary,—one gold ducat being worth \$2.30. Peter Alponensis, physician to Pope Honorius, was said to have charged the Pope 400 ducats for every day of the treatment,—a story which caused Abraham a Sancta Clara's sarcastic remark: "This way the medical purge the purse as well as the body."

Primitive African tribes never permit the medicine men to soil their hand with manual labour,—they provide generously, for all their material needs. Here too the success factor is important,—because for successful treatment, in addition, they are

rewarded with gifts of sheep or goats or skins or women, according to every medicine man's individual taste and wish.

French Kings Paid Well

Some of the fees paid by the French kings to their physicians-in-ordinary were actually extremely high. Louis XIV (1638-1715) paid 50,000 crowns (a crown being worth \$ 1.21) for a successful fistula operation to Felix;—100,000 livres to Ducenin (1 livre being about 1 French franc;—80,000 livres to Dr. Fayon;—40,000 livres to Bessiers; another 12,000 to Bessiers; another 12,000 to Bessiers' assistant,—all in all about \$ 200,000 to the five surgeons and their assistants who had attended him.

The French surgeon Jean Louis Petit who cures King Augustus II of Poland from a foot ailment, received 10,000 thalers (\$ 7,200) when he left Warsaw, besides 500 thalers travel expenses, a precious ring, many other valuable presents,—and finally an annual pension of 1,000 thalers for life time. Petit had started as barber, he became later a surgeon as was famous through his invention of the screw tourniquet and his pioneer work in mastoiditis. He was not satisfied with all the payments received from the Polish king, he claimed an extra fee of 4,000 thalers—and he claimed them successfully.

Ludwig van Beethoven, the composer, was in ill-health for many years of his life. He rarely had money to pay his rapidly changing doctors. But he showed his gratitude to them, by composing and dedicating musical pieces for them. A famous composition of this kind was dedicated to Dr. Braunhofer, professor of medicine at Vienna University,—a musical canon the words of which reminded the doctor of death and distress.

Jesus Casimir Felix Gyon, famous urologist of the Necker Hospital at Paris, was famous for his operations of kidney stones and bladder stones. He received such high fees for his stone operations that he built himself a country house in Meudon on which he wrote: "This house was built from three stones."

Some do not Like the Idea of a Medical Fee

There have always been some patients who did not like the idea of paying any medical fee at all. This aversion against paying fees is not restricted against the medical profession exclusively. There is a story of Mikulicz, famous Breslau surgeon, a man of unusual wit. A patient from a neighbouring Polish city came to see the doctor. He had been warned by well-meaning friends that the fee for the second consultation would be only half that of the first consultation, he greeted Mikulicz on entering his office with the cheerful words: "Well, here I am again, Professor!"

Mikulicz who never lost his presence of mind and his keen sense of humour, examined the man thoroughly and then just said: "Just continue with the prescription I gave you the last time."

This story is told about several famous doctors,—so may be it contains a general characterisation of the patient-doctor relationship.

Pierre Bretonneau, born in 1778, died 1862, was a famous doctor in Tours in France with many peculiar ideas. He belonged to the large group of physicians who are very peculiar in matters of money and fees. They are not inexperienced enough to contempt money—they are aware that nobody can live without it,—but they do feel uneasy about any connection of their professional services with any kind of payment. Accordingly they prefer to send no bill at all. Asked to name his fee, Bretonneau would answer: "Give whatever you want to, with me it's the same way as in church. The rich will sacrifice whatever he wants and the poor whatever he can afford."

Even a Rothschild was not able to have a bill sent from Bretonneau for services rendered to the Rothschild family. Eventually the banker opened an account for him and recorded there all the services,—and thus finally a small capital with all the interest added, had accumulated.

Dr. Herman M. Biggs was for years the trusted medical adviser of the Hill family in New York and the Adirondacks. James J. Hill, the head of the family, never could induce Dr. Biggs to send a bill. He finally seems to have lost his patience and, as we see in Winslow's book on the Life of Hermann M. Biggs, he had his secretary write to the modest doctor: "By direction of Mr. James J. Hill I have today deposited in the Chase National Bank, New York, to your credit, one hundred thousand dollars."

In this connection a story of medical fees may be mentioned which has been told by Adolf Lorenz, famous Professor of Orthopedic Surgery, of the University of Vienna, and inventor of the operation on

the dislocated hip joint, in his autobiography. When he lectured in America, on his way back to Chicago in the sleeping-car, he was awakened by some one who pulled his leg roughly and cried out: "Are you the man who got a million for an operation?"

It took Lorenz some time before he grasped the situation. "Oh no," he answered then,—"I got two."—"But then," the reporter put in, "you pulled Mr. X's leg severely!"—"No," Lorenz said, "Mr. X. didn't think I pulled his leg, but you surely pulled mine a bit too hard."—"Oh, beg your pardon," the reporter replied, "I had to get some news out of you." Then he withdrew respectfully, as seemed due to a man who was worth two million dollars.

BCG Bubble Pricked!

"In view of the gaps in our knowledge of the subject and in view of the disagreement among authorities as to the significance of those gaps, it is difficult to formulate well defined recommendations for the use of BCG vaccine in this Country. We feel that mass vaccination programmes are warranted only for carefully documented evaluation studies. Otherwise, the most that can be suggested at this time is its use in selected groups in which known exposure exists. Such projects should be designed with the possibility of contributing to our knowledge of the subject or at least of avoiding interference with studies now under way or proposed. Should the vaccine become generally available through licensure, it is apparent that those who will make decision, even regarding the limited use of BCG, will face many perplexing responsibilities. Our purpose in saying all this is to point out the danger of oversimplifying a problem that faces all of us collectively and may well face some physicians individually in the future, if not now. Between the one extreme of opposition to any use of BCG and the other of being evangelistic about it, there must be a rational middle ground where we can be reasonably sure that we know what we are talking about. Perhaps some day we shall have a better understanding of the entire subject of immunization against tuberculosis. Certainly it is reasonable to anticipate the development of a better vaccine. But even with an improved product there will be problems of which groups to vaccinate, how to vaccinate and whether and when to revaccinate. Whatever the use of BCG vaccination, however, no one should place reliance in it to the extent of relaxing the prosecution of accepted tuberculosis control methods for the protection of the community and the individual."

(Anderson and Palmer,
American Medical Association,
July 22, 1950, p. 1051).

RESPONSIBILITY FOR HEALTH THE SCHOOL ADMINISTRATOR

by

John L. Miller

ANY look at the school health program is rather circumscribed unless one inspects the total educational objectives, including our health objectives. If education is to be concerned with the child in his totality, as authorities generally agree; and if the needs of society as well as the needs of individuals are to be served, one objective of our educational program must be the development of a healthy individual. He ought to possess adequate health knowledge, sound health attitudes, and satisfactory health habits, together with a concern for a healthful environment and for the health of his fellow men.

Satisfaction of all of the generally accepted objectives of education may be futile unless the health objective is likewise satisfied. What is the point of education—liberal and vocational—if the educatee is, because of poor health resulting from inadequate knowledge, attitudes, and habits, unable to apply that which he has learned? Unfortunately, while the health objective has received lip-service from educational leaders and has been asserted as a cardinal objective, it has not been too often translated into a program of action in the local situation. There are too few adequate health programs in the school systems of our country.

Health Instruction's Place in the Curriculum

One important question to be considered by the administrator looking at the health-education program is this: how much direct health instruction should be offered and how much of the course content should be correlated with instruction in other subjects in order that the individual may completely integrate his knowledge? There is no one correct answer to the question, since the answer can be arrived at only by considering a particular local situation.

Health education must be complete, running from kindergarten through grade must provide for instruction in the elementary school by the regular teacher; it must similarly provide for relating instruction in other subjects to that of the work in health education. In the upper six years some of the health instruction may be provided for in other subjects—science and home economics, but there must be at least a one-unit health course taught by a specialist.

Only through such a course can justice done to the extensive content of the complete health-education course, since specialists in other subjects have their own objectives to satisfy and can be expected to subordinate satisfaction of health objectives. Maturing students, of particularly those in the senior high school, need the challenge of being exposed to the teaching of a health specialist. Much can be said for diffusing health content thru the high school program of studies, so long as diffusion does not result in confusion or chaos, and so long as provision is made for an adequate degree of specialization through the one-unit course.

In this connection, it should be pointed out that there has been much loose talk about "integrating" health instruction with other subjects. Integration occurs within the individual learner. It is not necessary to combine or fuse subjects in order for integration to take place. Integration within the pupil may be more readily effected as a result of the services of the specialist who knows his subject so thoroughly that he sets the stage for the application of knowledge in new and different situations.

The content of the health course should be determined in the light of sound health objectives. Logical organization of content

should be sacrificed to psychological organization in terms of the learner and his needs. We need an experience curriculum in health—one in which the problems of particular pupils at particular levels in particular communities determine the content. This type of organization does not mean that the ground will not be covered. It means that the covering of the ground will be constructive and of greater significance to the pupil. The psychologically organized curriculum will be flexible; it will evolve from day to day and from year to year, but it will in no sense be less than a complete curriculum.

Development of Attitudes

So far, we have been concerned with health knowledge, with the content of the health course. Knowledge alone is not adequate. Attitudes are important and it is in the area of attitude development that diffusion of responsibility through the entire school staff may make its greatest contribution to the health program. The efforts of the health specialist to develop sound attitudes in pupils may be significantly aided by those other staff members who are concerned about health.

Any specialist, in health or in other fields, is often viewed as a prejudiced person, a special pleader for his own cause. His work in attitude development may be given proportion and perspective through the efforts of his associates who many in turn acquaint the specialist with evidence of sound and unsound health attitudes on the part of pupils.

Adequate health knowledge and sound health attitudes lay the foundation for satisfactory health habits or practices. Health practices are the test of the effectiveness of the health-education program. The knowledge and the attitudes must be translated into action. As with attitudes, the health practices or health experiences of the individual pupils should be the concern of all staff members. The health teacher must be concerned with the health practices of the pupil in his total living—in the health room, in the school, on the playground, in the community, and in the

home. He must keep informed as to the health practices in his charges and must use his knowledge in building the health curriculum.

Other staff members must help pupils develop better practices and must, as in the case of attitudes, report to the health teacher evidence of both good and bad practices. In this connection, stress should be placed on the importance of providing adequate opportunities for pupils to engage in desirable health practices—both those of concern to the individual, those of concern to him as a member of a group, and those of concern to the group.

The individual must be provided with adequate facilities if he is to develop satisfactory hand-washing and toilet habits. He needs to realize that health is both a personal and a social problem—that his own unsatisfactory practice with respect to caring for a cold, may adversely affect others. The group of individuals needs to have opportunities to study problems which affect the total group—sanitary facilities, or lighting, or ventilation, or eating, and the like. Opportunities for such group health activities may come either through a student health council or student participation in the activities of a school health council.

Staff Plays Important Part

The term "staff members" has been used rather than "teachers" with respect to general responsibility for health attitudes and health practices. The health service personnel should assist in instruction on an individual basis and should serve as resource specialists for other staff members. The custodian has a part to play, as do the physical educator, the librarian, and the school administrator. If all act in concert, the pupil will realize the importance of a design for living in every phase of his existence.

If the health course is to be problem-centred, it would seem to follow that, at the secondary level, there must be a health specialist to whom the pupil may go with those personal problems which he cannot

bring out before a group. This suggests that one of the primary obligations of the health teacher is to establish such sound relationships with the pupil that the teacher becomes in fact a health counsellor. If the teacher establishes that relationship and serves the needs of pupils both on a group and individual basis, he is in a position to make a most significant contribution to the living of the pupil, to-day, to-morrow, and thereafter.

The Administrator's Responsibilities

Besides the administrator's responsibility for health education, he has a great responsibility for the health service program; for seeing that it is adequately and competently staffed and it is functioning efficiently. As to adequacy, he can get help from certain standards advocated by the Division of Health, Physical Education, and Recreation, New York University and by the New York State Association for Health, Physical Education, and Recreation, as follows:

- (a) One full-time physician for 3240 pupils
- (b) One full-time nurse-teacher for each 500 pupils in rural areas and each 1000 pupils in urban areas
- (c) One dental hygiene teacher for each 900 pupils in rural areas and each 1400 pupils in urban areas
- (d) One physical education teacher for each 240 elementary pupils and for each 190 secondary pupils
- (e) One full-time health teacher for 150 secondary pupils

The area of mental health must not be neglected. Psychological service should be provided, and on a consultative basis, psychiatric service. Sound educational standards should be employed in the selection of health service staff members, and in their in-service training. Adequate

financing of the program is of fundamental importance and is a key responsibility of the administrator. "You get what you pay for" applies to education, too. You get a high quality of medical service by paying enough for it, to give it prestige, and to make it worthwhile for a capable person to undertake.

Since the medical inspector is of another profession and the nurse-teacher is of two professions, the administrator has a peculiar responsibility to co-ordinate their services and to harness them to those of other school staff members. A significant co-ordinative device is again the school health council. The school administrator has a shared responsibility with respect to the physical examination of pupils and of staff members.

The third area of administrative responsibility for health is that of the school environment. The physical facilities—drinking, toilet, and hand-washing must be adequate; the house-keeping must be of a high order; the school lunch space and program should make an effective contribution; play space, indoors and out, should meet health needs of children; lighting, ventilation and seating should be suitable and adequate. Besides taking care of the physical environment, the administrator needs to reduce tensions for teachers and pupils; to consider the demands of the length of day, of home work, of extra activities, etc.; and to improve conditions for living by asking pupils and staff members to help in improving them.

The administrator's responsibility for health is a considerable one. He is willing to assume it, but needs the support of all—teachers, parents, board of education members, and other administrators—if the basic health objective is to be achieved.

—The Journal



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

Name: MASTERING YOUR NERVES.

Author: A. T. W. Simeons, M.D.

Publishers: D. B. Taraporevala Sons & Co., Ltd., 210, Hornby Road, Fort, Bombay-1.

Size: 7½" by 5".

Pages: 205. Price: Rs. 4.

"A diagnosis is a physician's forecast by the patient's pulse and purse." This is a sweeping statement no doubt; but related to the strange world of modern medical abracadabra, it has undeniably a ring of truth. A list of diseases, if compiled, would be a staggering one. Strange weird names, mostly unpronounceable and nearly everyone of them a jaw-breaker. And then, drugs, sedatives, tonics, injections, vitamins, what not, so that to a lay mind the conclusion seems to be that doctors have a vested interest in disease.

The book under review is a welcome relief from so much arid pedantry that we have around us. The author's contention is that much of what is termed "disease" is really ascribable to that clever little organ, the human brain, which de-automatises the automatic functions of the nervous system. What should be done naturally is done consciously; the result is that the thing is done inefficiently. Over-anxiety is the cause of most maladjustments and once this critical self-aborption stops, the normal automatism is re-established. Fear should be removed and the body allowed to function naturally.

The book makes extremely interesting reading and contains unbelievably simple

remedies for some common ailments—so simple in fact that one begins to feel sceptical. The human faith in bottles full of important-looking liquids or sharp, sinister instruments of violence, dies hard.

—K. J. N.

Name: YOUR DIET FOR LONGER LIFE.

Author: Dr. P. H. James A. Tobey.

Publishers: D. B. Taraporevala Sons & Co., Ltd., 210, Hornby Road, Fort, Bombay-1.

Size: 7½" by 5".

Pages: 284. Price: 4-12-0.

Seeing that there is acute food shortage in the land, there is a great demand for books on diet and health. This is quite natural. People would like to know what to eat to preserve health in the face of the scarcity of normal foodstuff.

Dr. Tobey has every right to talk on the subject. He is quite experienced. He has experience of the conditions which prevailed in the two world wars. Readers can entirely rely on the accuracy of the information given by the author.

[Here, I have to digress a little. I had the misfortune of reviewing a book entitled 'Food For Health' by Dr. D. Subba Rao, Nutrition Officer, Madras, in *People's Health* (Vol. IV, No. 2, Page 80). I reviewed the book very candidly and since then I have not been requisitioned by *People's Health* to review any book on

nutrition. Not unnatural. The editor should have alienated the sympathy of officialdom by publishing my review. But I was compelled to condemn that publication for the reasons given in the review.]

"Your Diet For Longer Life" is a book written by one who knows what he is talking about. While perusing the book, I was looking forward to see whether the author had referred to particular subjects. Very agreeably, every question which had occurred to me, was answered in this book. As I said, the information furnished in

Dr. Tobey's valuable book, including charts and statistics, bear the stamp of accuracy.

In these days when every person is worried about getting his normal diet, one should peruse the book under review and regulate his diet with the foodstuff available and yet maintain health. I strongly recommend this book for the perusal of not only the professionals but also the lay public.

A Dietetician.

Announcement

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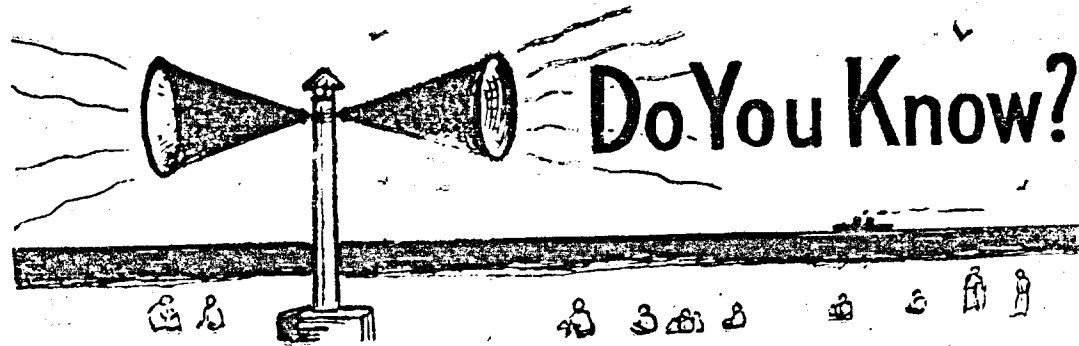
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Appendix—Useless vestige

Q.—The appendix is said to be a useless vestige of what was, in our remote ancestors, a useful organ. What purpose did it serve?

A.—It seems to be all we have left of the part of the digestive system which dealt with grass or similar vegetation containing a good deal of cellulose. In rats the equivalent structure is as big as the stomach, secretes chemicals, and absorbs nourishment. It is not certain why, in man, it diminished in size till it degenerated into a little wormlike tube about three inches long and blind at one end. Perhaps it atrophied because our ancestors gave up a herbivorous diet, or possibly degeneration set in when they adopted an upright posture. In any case it is no use now except as a source of fees for surgeons.

—Rushworth Fogg.

The Weight of Brain

The average brain weight for European adult males is 1,375 grams; for females, 1,235. The brain of Turgenev, the Russian novelist, weighed 2,012 grams and was exceeded by only two others, one of whom was an imbecile. A common labourer had a brain weighing, 1,925 grams, while Gambetta's registered only 1,294 grams. The largest woman's brain recorded is 1,742; she was insane and died of consumption. Many others with big brains were insane. There is no evidence that size of brain (or of head) is necessarily connected with actual or potential intelligence.

—George A. Dorsey.

Sex And Breaking up of Voice

Q.—Why does a boy's voice break and not a girl's?

A.—When a boy's voice breaks, it is because his voice-box is suddenly becoming rather larger. As a girl grows up to be a woman, her voice-box grows steadily in proportion to the rest of her body. But, for some reason, Nature prefers that men shall have much deeper and louder voices than women. In order that this shall be so, the larynx, or voice-box, must be much larger in proportion, and the vocal cords longer in men than in women.

This particular change begins to happen when a boy is about fourteen or fifteen years of age. It is not really necessary for a boy's voice to break—that is to say, it is possible for his voice to get steadily and evenly lower. But, as a rule, this does not happen, and the reason is, not that there is anything the matter with the boy's voice-box but simply that he has not learned how to work it.

The muscles are getting bigger and heavier, the cords are getting longer and this is happening very quickly, and, of course, it must mean that a new skill has to be acquired, just as if one has learned to play perfectly on a very small violin, and then had to play on a full-sized one. That is why the boy has not the proper control over his voice, and sometimes speaks in a low pitch and then suddenly in a high one.

—Children's Encyclopedia.

When to Straighten Teeth?

Q.—What is the proper age at which to begin straightening irregular teeth? Why should the teeth be straightened?

A.—Some irregularities need treatment when the child is very young; others are better treated later. The cause and related conditions must be understood before treatment.

If malocclusion (improper position of the teeth) exists, the condition should be under the observation of a dentist, who may refer the child to an orthodontist.

Properly placed teeth are important because they improve one's appearance, give better service and keep cleaner.

—To-day's Health.

Arrival of Permanent Teeth

Q.—When do the permanent teeth come into the mouth?

A.—The ages at which the permanent teeth usually erupt are as follows:—

	Upper teeth	Lower teeth
Central incisor	7-8 Year	6-7 year
Lateral incisor	8-9 "	7-8 "
Cuspid	11-12 "	9-10 "
First bicuspid	10-11 "	10-12 "
Second bicuspid	10-12 "	11-12 "
First molar	6-7 "	1-7 "
Second molar	12-13 "	11-13 "
Third molar	17-21 "	17-21 "

—To-day's Health.

The Fruit of Sleep

Q.—Do we always wake when we have had as much sleep as we want?

A.—This is an important question, because the answer to it must decide one of the most essential points in taking care of children. The view used to be held that children were naturally lazy and naughty, and that Nature had done things so badly, that, to give the children a chance, it was necessary for grown-up people to interfere with everything that little ones inclined to do. On this theory, the children were awakened at a fixed hour, as if all children required the same amount of sleep as if the same child always required the same

amount of sleep every night, and as if all sleep gave the same benefit, and could be measured by hours. This was wrong.

People who have given their lives to studying the subject are certain that a child will wake when its brain has had all the sleep it needs. The waking is the proper fruit of the sleep. A child could not sleep too long, because directly sleep has done its work the brain must wake; that is what sleep is for. On the other hand, the slightest noise may awaken children before they have had their sleep out. It is only a few children who get all the sleep that Nature asks for them, and it is believed that a large number of these children afterwards become the leaders of their generation.

—Children's Encyclopedia.

Vitamins in Tomato Juice

Q.—Does the vitamin content in canned tomato juice—both commercially-canned and home-canned—lessen after a long period? If the juice loses its value, how long after it has been canned, it begins to do so?

A.—In a recent study made on the retention of vitamin C in commercially canned tomato juice stored for 12 months in warehouses in different localities in the United States, it was shown that the losses of vitamin C depend more on storage temperature than on length of the storage period.

At storage temperatures of 50 degrees and 65 degrees there were no appreciable losses of Vitamin C. When stored at 80 degrees the juice showed a definite loss in vitamin C after eight months; this increased after 12 months storage.

If the juice has been stored in a relatively cool place there probably will be little deterioration of nutritive value. However, if the temperature has been rather warm at times, the vitamin value of the juice will be appreciably reduced.

—To-day's Health.



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

—George Herbert.

When It is Too Late

Doctors, like lawyers, can be got to take opposing views. But while a judge is able to pronounce which lawyer is wrong, they only find out which doctor is wrong when the under-taker calls.

—James Walker.

Wise Man!

A lady phoned frantically "Doctor! Come right away. My husband has had another one of those spells".

"Why didn't you send me for sooner" asked the doctor, when he arrived.

"Well, I tried to," replied the wife, "but as long as he had his sense, he wouldn't let me call a doctor!"

The Reason

"My wooden leg is giving me a lot of pain" groaned the patient.

"There is nothing in a wooden leg to give you pain" said the doctor.

"Not when your wife cracks it on your head" came the explanation.

For Brevity

Coue complained that his famous formula "Every day and in every way I am getting better and better" was of little use in America. It took long to say. Americans

just cut it down to "Hell, I'm well."

—Estabrooks

Not Omnipotent

Some people think that doctors and nurses can put scrambled eggs back into the shell.

—Dorothy Canfield.

Hobson's Choice

Returning home from the dentists where he had gone to have a loose tooth out, the youngster reported: "The doctor told me before he began that if I cried or screamed, it would cost me ten rupees, but if I was a good boy, it would be only five rupees."

"And did you scream" queried Mama.

"How could I? You gave me only five rupees!"

In A Hurry

A man told a friend that he was running to an undertaker as his wife was dangerously ill.

The horrified companion said it is a doctor, who is usually called in when someone falls sick.

"Impossible" persisted the man "I can't afford to wait for the middle man."

Non Luminous Flames

Religious denominational matters can raise very great heat and not much light.

—Aneurin Bevan.

The Primitive Taste

"They (of our ancestors) liked wine better than fruit juice—this primitive taste persists in many of us—and alcoholic fermentation must have been an early discovery. A wise anthropologist has assured us that, although races have been found so ignorant of the facts of life that they never knew the relationship of father to child, no tribe has ever been discovered that did not know how to make some intoxicating beverage."

—Williams Haynes.

Patience Ltd.

Doctor Tuckerman, an Unitarian clergyman of Boston, United States, some years ago visited London for the express purpose of having Mr. Abernathy's advice on his case. The rev. divine was a very mild, gentlemanly man, and on his being introduced to the great surgeon, commenced talking something in this way:

"Mr. Abernathy—I reside many miles from hence, and have the charge of a little flock; and my little flock, sir, very kindly wishing me to have your opinion, consented to spare me for a time. I have, therefore, sir, left my little—flock—"

But Abernathy's patience was exhausted, and, to the horror of the meek clergyman, he burst out with "D—n your little flock, sir, stick out your tongue!"

—From Pen and Ink Sketches of Poets, etc., Anon. 1846.

A Necessity

Routine is a terrible master, but she is a servant whom we can hardly do without. Routine as a law is deadly. Routine as a resource in the temporary exhaustion of impulse and suggestion is often our salvation.

—Phillips Brooks.

Pep Talk

Patient: Doctor, what I need is something to stir me up—something to put me in fighting form. Have you put anything like that in this prescription.

Doctor: No, you will find it in my bill.

Natural!

It is hardly to be expected that a man who does not hesitate to vivisection for the sake of science, will hesitate to lie about it afterwards to protect it from what he deems the ignorant sentimentality of the laity.

—Snaw.

Blissful Ignorance

I doubt whether it is good for the ordinary man to know much of the details of how his body works. The man who has learned to think of his heart as a pump, with valves that get out of order, is on the way toward having a weak one. Better let him think of it as the seat of love and generosity and it will beat away happily till it stops.

—Stephen Leacock.

Some Schoolboy Howlers

1. The spinal column is a long bunch of bones. The head sits on top and you sit on the bottom.

2. Respiration is a handy thing to know how to do especially if you live far from a doctor.

3. To stop a nose-bleed, stand on your head still your heart stops beating.

4. The doctor uses a periscope to find out what is wrong with our chest.

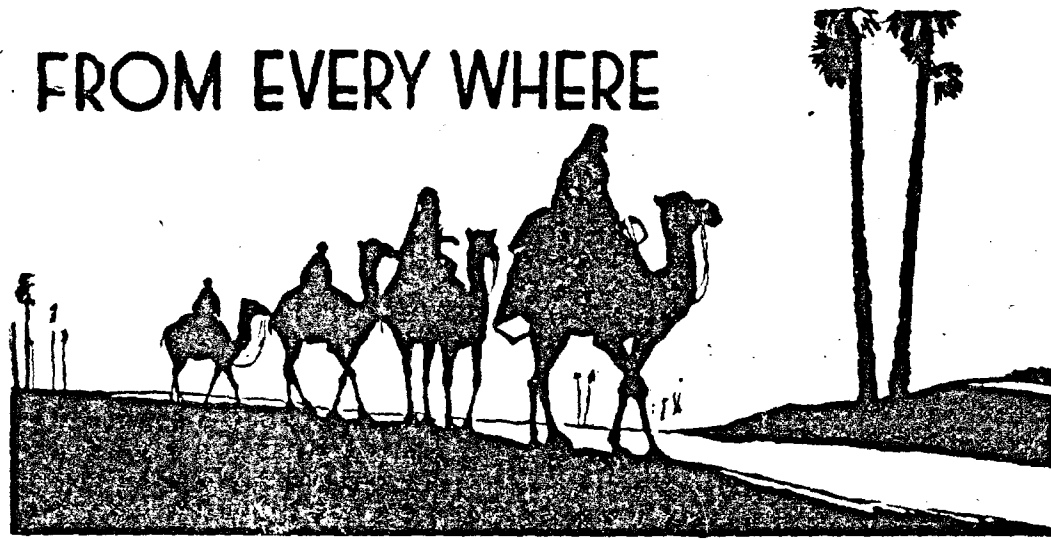
Scruples

"I've eaten four crumpets" says the patient, "every night for fifteen years, on principle."

"Well, then, you'd better leave 'em off, on principle" says the doctor.

—Dickens.

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.

Mumps Vaccine

A preventive vaccine against mumps has been developed in the United States. Research on the new vaccine, which gives an immunity lasting about a year, was performed originally at the National Institute of Health near Washington. Dr. Karl Hable of the Institute says that it was made from mumps virus cultured in fertilized chicken eggs and then rendered incapable of producing an active infection.

Although the new product is not 100 per cent effective, trials indicated a three-fold reduction of mumps cases among vaccinated person compared to unvaccinated. Before the vaccine was released for public use 1,600 persons were successfully immunized. This means that they developed antibodies against mumps in their blood. Antibodies are nature's germ fighters that destroy bacteria.

Since mumps is a seasonal disease, Dr. Hable notes that protection against the disease could be maintained by injections at properly-timed intervals.

Available statistics indicate that 80 per cent of city residents contract mumps

before the age of 17. The remaining 20 per cent an even larger per cent of rural residents are susceptible to the disease when they reach adulthood. While mumps is not generally considered a serious childhood disease, it may cause serious complications in adults.

The Lederle Laboratories at Pearl River, in the state of New York, co-operated in the research and are manufacturing the vaccine commercially.

—Indian Medical Guide.

Rodent Control

Howard B. Hollander, R. S. The Sanitarian...

Although domestic rodent control is of paramount importance to the public health, yet the public is slow to respond to organized measures that will effectively control them. This disinterest on the part of the public is caused by two things: (1) "Lack of figures in dollars and cents regarding a particular community or area with an itemized industry breakdown" and (2) "The store of popular belief and information". The article briefly discusses bubonic plague and murine typhus,

which are the two most important diseases of rodents transmissible to man, the details of which are common information to public health workers. The keynote to a successful program is education of the professional health worker in rodent ecology and on the acceptable methods of altering factors favourable to rodent population. Because rodent control largely depends upon the private pest control operator, the "neglect of extending adequate training to this group will delay, or possibly negate, the successful realization of the rodent control program."

—D. L. Traux.

Urban Rats and Their Control

John M. Henderson. Modern Sanitation.

This is the second of a three-part article, of which part I, discussed rat-borne diseases, economic damage and rats and rat biology. This part described rat control principles and prevailing programs. No comparable area wide index of effective rat control has been established, and it is doubtful whether any specific figure will ever be arrived at which would be valid throughout the U.S. Rats are more difficult to control in the South than in the North because of the higher natural rat populations, presence of climbing rats and more outdoor rats. Age and condition of buildings in a city; presence of extensive slums; density, customs, temperament and income of the human population, type and extent of business and industry—all influence original and residual rat populations. A 90-per cent reduction in a heavily infested area leaves far more surviving rats than an equal reduction in a lightly infested area. Outdoor rats can be initially reduced in numbers more easily than indoor rats because their food and harborage are more visible and can be more easily removed. Conversely, it is practically impossible to eradicate yard rats over an extensive area because they cannot be "sealed off" but eradication of indoor rats from virtually all buildings is a reasonable objective where effective rat control is practised.—PHEA

Urban Rats and Their Control

J. M. Henderson. Modern Sanitation.

Many species of rodents are found in this country, but only two types—rats and mice—are significant problems in municipalities. Interest in rodent control is focussed on rats alone, because they transmit more disease, cause more damage and are far more difficult to control. Both rats and mice are objectionable from an economic, health, general nuisance and aesthetic standpoints. Rat-damage estimates range from 1 to 10 billion dollars annually. The high figure represents what rat damage would total if rats were as plentiful everywhere as they are known to be in some heavily infested area. Probably the highest loss to business is from food and feed supplies made unusable by damage or contamination. Although food intake of the rat is limited by size, many cartoons and bags may be broken into when only a small quantity is eaten, but large stocks may become contaminated by droppings and urine, be spilled or otherwise damaged. Annual property damage of all types has been estimated at \$ 20 per rat, as compared with \$ 2 for food actually consumed. Rat-borne diseases of principal interest in this country are: bubonic plague, murine typhus and food infections. Bubonic plague and murine typhus are regional problems while food infections by rats is nationwide. The first two are primarily diseases of the rat, the rat flea being the principal vector from rat-to-man.

—W.W.M.

Tissue Studies in DDT Handlers

W.J. Perry & L. J. Bodenlos. U.S. Navy, Med. News Letter.

—Reprint from Industrial Hygiene Digest.

No DDT was found in the fat, blood, urine, or faeces of 16 men with histories of exposure for 6 months to 3 years in occupations where contact is frequent, including compounding and mixing and dissemination of solutions by fog generators, knapsack and power sprayers, and hand-operated dusters. It is concluded that handlers utilizing normal precaution

neither show symptoms of poisoning nor any accumulation of DDT in the body. These results agree with general experience in the Marine Corps. Adequate personnel protection, adherence to recommendations for use, and the careful indoctrination and rotation of exposed individuals through varied duties have been in part responsible for the small number of toxicities known to date in this organization.—PHEA

Purification of Sewage in Lagoons

C. D. Parker, H. L. Jones, & W. S. Taylor.
Sewage and Industrial Wastes.

Lagoons as a method of sewage purification has been practised in America for several years. In Australia, lagoons are used at times in treating sewage from small towns, their main application being for the final treatment of effluents otherwise considered unsuitable for discharge after treatment by primary and secondary processes. Studies at Melbourne, Australia, reveal that the most satisfactory continuous form of lagoon treatment of raw sewage is by passing it first through an anaerobic lagoon for sedimentation, digestion, and partial B.O.D. removal, then through an aerobic lagoon for complete B.O.D. removal and stabilization. The purification effected in anaerobic lagoons is due to the presence of a digesting sludge layer deposited on the bottom of the lagoon. The purifying capacity or performance of anaerobic lagoons is much greater than that of the orthodox oxidation pond or aerobic lagoon. The purifying capacity increases with increasing B.O.D. load up to a value of 82 lb. B.O.D. per acre per day. Increased loading beyond this value results in decreased performance. When the lagoon is operated to give its maximum purifying capacity the effluent B.O.D. is not satisfactory. The maximum performance to give a satisfactory effluent is 65 lb. B.O.D. per acre per day and it is this value which should be used for design purposes. The presence of algae in the aerobic lagoon probably increases its capacity for purification. Other than an unattractive appearance, there is no ground for objection to the discharge

algae-containing lagoon effluent to river or sea water, as they tend to increase rather than deplete the oxygen content of the receiving water. Partially purified filter and land treatment effluents can be completely purified by continuous treatment in aerobic lagoons. The purifying capacity treating a filter effluent with a B.O.D. of 30.6 p.p.m. is similar to, but somewhat lower than that for raw sewage (41.7 lb. B.O.D. per acre per day).

—T.T.M.

How to Design a Swimming Pool

Paul M. Holmes. Engine. News Record.

This article describes in detail the general layout and design features of the first of two swimming pools to be built to handle 1,000 swimmers from a population of 15,000 or one-fourth the population of Hamilton, Ohio. The pool is constructed on a recreational site adjacent to a high school where there is adequate auto-parking space, and also served by a bus line.

The pool is 75 × 150 ft. with swimming and diving area of 3-5 ft. and 5-10 ft to handle patrons on a 3 : 1 ratio respectively. A large sun-bathing area is provided. Bathhouse facilities include basket rack, dressing rooms, showers, wet-and-dry toilets and separate toilets for spectators. Water is recirculated from bottom and sides of pool at 1,000 gpm rate (turnover 6.67 hrs.) through two 500 gpm diatomite filters; it is then chlorinated and returned to pool through 24 inlets from a pipe gallery surrounding pool. Construction cost was \$ 165,000.

R. O. Waller.
(P. H. Engg. Absts.)

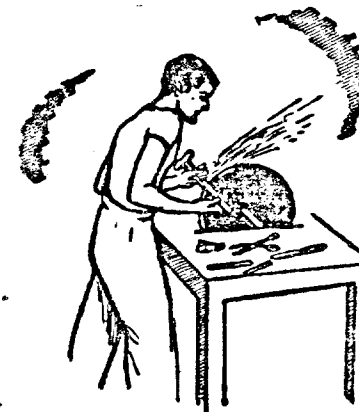
A Healthy Environment

It has become clear to all of us that if man does not solve the problem of building an environment in which the human personality can grow, the mental strains of modern life may become so great as to destroy him.

—Ralph H. Ojemann.

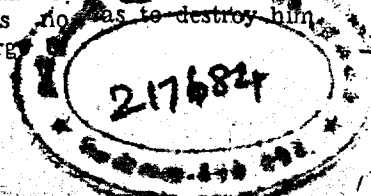
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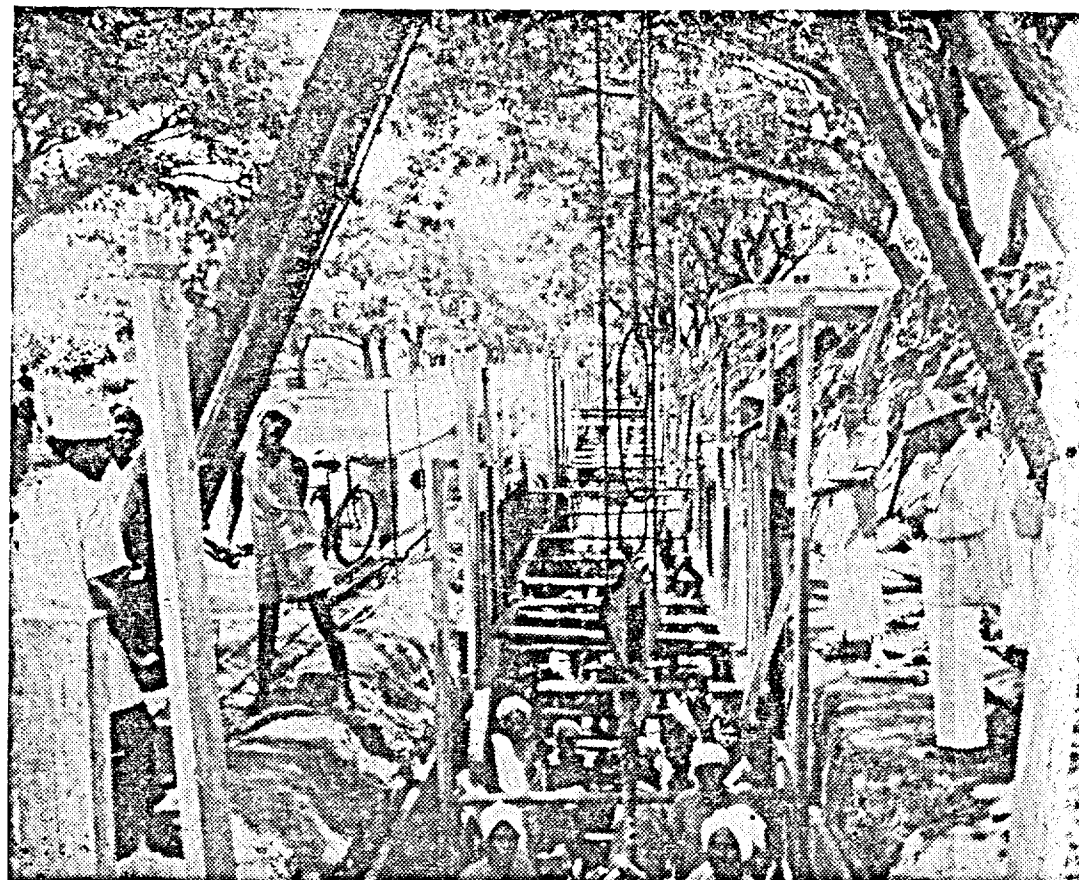
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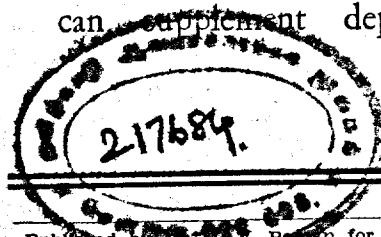
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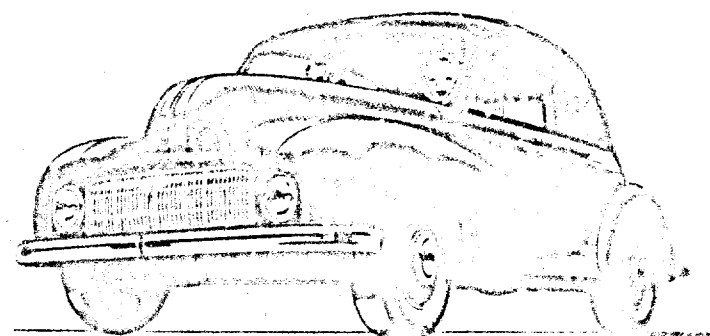
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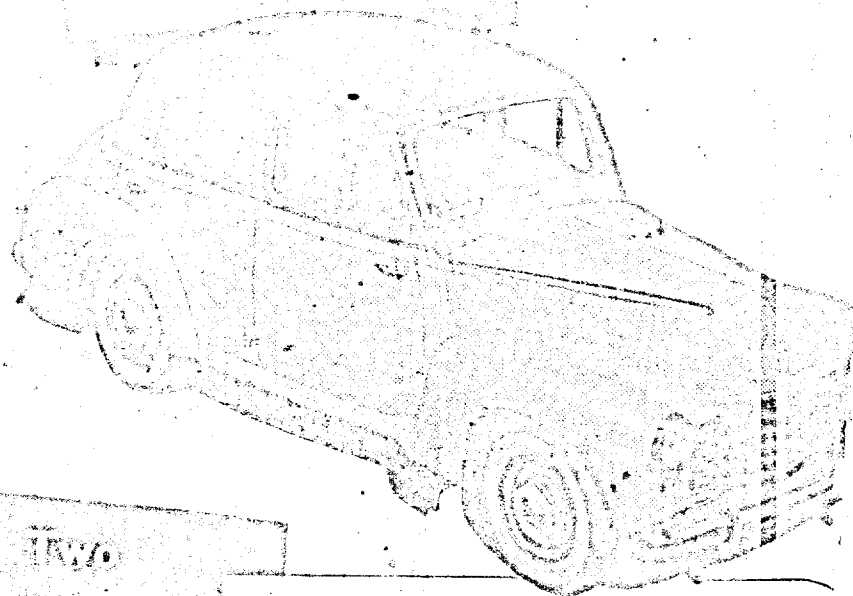


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Figure 1 *Flowchart of the study*

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