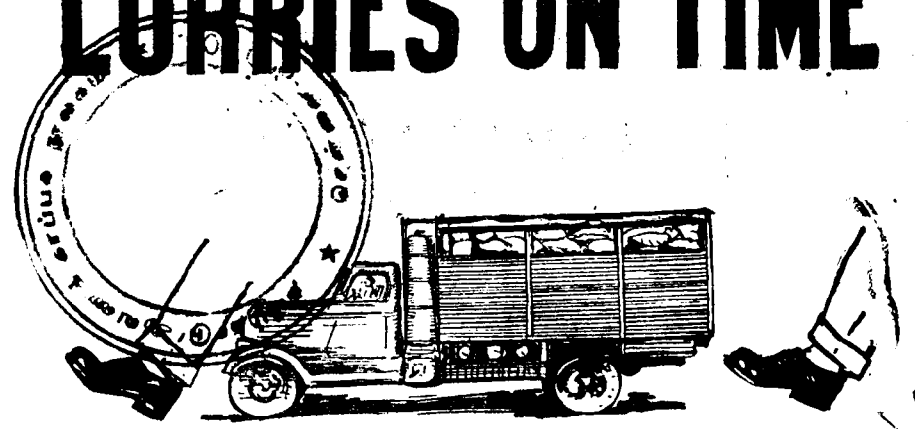


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MEDICINES OR ENVIRONMENT ?

PEOPLE'S HEALTH

A Pioneer in the field of Public Health

VOL. I
No. 1

OCTOBER, 1946

ISSUED
MONTHLY

"OURSELVES"

An immemorial tradition has long decreed that the individual can spread himself out and become many men in one by adopting the plural while he really intends to speak in the first person singular. I have no use for this convention. I am breaking it in making my first approach to my public. "People's Health" is a new venture. I have undertaken to sponsor it in what still remains a new field, so far as our country is concerned. For, though journalism has many notable successes to its credit in this land, it will have to be admitted that we have not made any impression, much less progress, in the field of scientific studies popularised through journalism. Our journalism has been largely the creature of current politics. But with the dawn of a new era, happily presaged by the formation of a national, although it is called "interim" government, it may be confidently asserted that the finer energies of creative minds in our country, will hereafter at least be more evenly distributed over many fields of constructive activity, in many branches of national life, in which we have, as yet, not made even a beginning. The most important of these, needless to say, is the building up of the nation's health; for, without such health as the basis of every kind of further advance,

there can be neither a nation nor any progress worth making.

The advances of modern science have been more spectacular in the destructive than in the constructive field. But in point of fact, it may be asserted almost as an axiom that, out of almost every evil has come some soul of good. If we have had the series of V-weapons and atom bombs, we have also had the distinction of discovering or synthetically making 'wonder drugs' which in Bacon's words have tended to "glorify God and relieve man's estate on earth." There are important researches which are still quietly going on in the seclusion and silence of forgotten or unnoticed centres of learning. The effect of such discoveries and inventions is not merely to relieve man's suffering through sickness, but, what is after all the main purpose of living, to enable man to utilise the life thus saved from premature destruction, to greater and more exciting adventures and advances in the realms of the human spirit. But these "wonder drugs" are not intended to remove the root causes of man's sickness; nor is any claim made that they improve the living conditions of man. Much is talked about raising 'the standard of living' of the 'common man.' Little is done to improve the environmental

conditions in which he lives. It should be impressed on every man that every endeavour should be made to improve them as the very first step towards raising the 'standard of living.'

In our country, the organization of public health as an efficient independent service has not yet been taken on hand. But it is well known that it has been functioning as an essential department of State activity, in all the civilized countries of the West. Next to education, if not indeed closely linked up with it, it occupies in the western scale of values, a position of unrivalled prestige which can only be contrasted to our disadvantage with the unenviable insignificance which is its lot here. Neither education nor public health is yet conceived of as national duty of transcending importance. Lip service is paid to education these days. There is a consensus of opinion that universal primary education is the greatest as well as the most binding liability of the State. But even this concession has yet to be made in regard to the claims of people's health, as the nation's first great desideratum under modern conditions.

Not only has there been a kind of hand to mouth existence in this field of government activity, but there has been a conspiracy of planned hostility to relegate public health problems to a position of insignificance. The field of public health has become a dumping ground for indifferent doctors and inexperienced engineers usurping the places of a class of men whom our Governments have not yet visualised in their proper setting and stature. It is commonplace in other countries, that the public health service should provide common ground for the meeting of the sanitarian, the doctor, the engineer, the bacteriologist, the entomologist and

many others; but here in India the field of public service is either a no-man's land, or what is worse, a happy-hunting ground of self-styled experts improvised overnight, as it were, by Government Orders. The Government Orders have not, however, the power of a magic wand. They cannot certainly endow such "G. O. made experts." with the knowledge and experience required to perform the duties attached to the posts they are called upon to fill. From the point of view of the public, the old system has had the unfortunate effect of promoting an attitude towards public health problems, of helplessness by inducing a general belief allround, from the administrator down to the common man, in the indispensability of the doctor for the solution of any and every specific problem of people's health. The cumulative effect of the long administration of the so-called health departments has been to make men think of doctors while talking of health. Surely, this cannot be deemed complimentary either to the common sense of the average man or flattering to the prestige of the doctor in relation to his special work. We cannot resist in this connection, the temptation to recall one of the oft repeated remarks of Bernard Shaw. Very pertinently, he points out that doctors should not have any vested interest in the disease of their patients but rather in the promotion of their health. Those who retain vested interests in the diseases of man have no business to talk about his health; any more than lawyers can complain about the mounting up of litigation in the law courts and shed tears of grief over it!

All these bad old precedents and conventions must be swept away. The time has come to call a halt to the tragic mess of the blind leading the blind.

The new science should be enabled to stand out in terms of a new service which will embrace the entire country, which would co-ordinate inter-provincial activities. It should take into account international trends of thought and practical expedients embodying them, which will guide and measure progress in the light of a "Master-plan" evolved centrally and executed with due regard to variations in local conditions.

I have been a public health engineer for over three decades. It has been one of my life's ambitions which I have been cherishing amidst the vicissitudes of my career as a permanent servant of the State, some day or other to do something in the interest of the profession so dear to me, of such tangible good to the community that its effects would endure in ever mounting proportion for all time to come. At the risk of being misunderstood for an egotist, let me quote the following lines from Wordsworth's character of the "Happy Warrior":

*" It is the generous Spirit,
who, when brought
Among the tasks of real life, hath
wrought
Upon the plan that pleased his boyish
thought:
Whose high endeavours are an inward
light
That makes the path before him always
bright:
Who, with a natural instinct to discern
What knowledge can perform, is dili-
gent to learn;
Abides by this resolve, and stops not
there,
But makes his moral being his prime
care;"*

Well has it been said that man lives not by bread alone but by every

word that comes from God. It is because of some such sustaining principle which lifts us out of ourselves, that human work on the human plane survives the brittle glory of an hour. It is the people who have seen visions and dreamt dreams that are also the architects of human greatness as well as human happiness. It is my ambition to strive to be in such excellent company; and if "PEOPLE'S HEALTH" will enable the world which I see around me to be transformed for the better in the smallest degree in directions which I consider vital, I shall feel more than amply rewarded for a task which I have ventured to shoulder at this stage and age of my life.

In furtherance of the aims and objects I have set before me, I am out to co-operate with every one. I have placed "People's Health" above party or personal politics, or communal, linguistic, religious, territorial and other such considerations. I cannot close this note without expressing my feelings of personal thankfulness to the "common man" in particular, who has already given me ample evidence that he is behind me to support the cause for which "People's Health" stands. I can now confidently claim that I have his authority to speak on his behalf.

EDITORIAL . . .

Allopathy Versus Ayurveda.

This has been a subject of ceaseless controversy for many years in our country. When a foreign bureaucracy gained ascendancy in authority, and its power became supreme, Ayurveda was given short shrift. The whole system was then dismissed as the accre-

tion of popular superstitions which was exploited by ignorant and may be well meaning quacks. Now that the wheel has come full circle, we are in danger of rushing to the other extreme, and of attributing to Ayurveda imaginary perfections which were never there, and to claim for it an encyclopaedic fullness and perfection which in any case, cannot be claimed by any system of human thought. There is no virtue in being old merely because it is old; nor is it a defect that a thing is new. Both these ideas of novelty and antiquity can only be assessed in terms of their utility or indispensability to human life. Looked at in this way, we think that all men of goodwill should join together in deprecating the growth of a controversy which now tends to make Ayurveda a Hero and Allopathy a Villain of the piece. By all means, let our patriotic zeal and research studies proceed in their own way and bring to light the glories which we were able to achieve in the dim, distant past. But it is undeniable that while our eyes are turned backward, a great deal of spectacular progress is being achieved by modern systems of research today, which we can ill afford to ignore. The path of wisdom would therefore lie in our keeping in step with the latest development of modern thought without necessarily fouling our own nest, or gratuitously discounting the achievements of our ancients in the days of yore. Our aim should be to welcome knowledge from whatever source it comes. If Ayurveda enables us to do so, we will make full use of it; even if there is anything in Allopathy which is defective, we should be fully informed of it to show that it is defective. There is a wide scope in both for sharp practice. It is for us to see that we

do not fall a victim to this under cover of devotion either to science or to country. Progress never stands still.

The Madras City Water Supply.

OH! THE STENCH OF IT!

Viewed from whatever standpoint, the water supply of the city of Madras, has been quite unsatisfactory for quite a long time. The quantity supplied has been meagre to meet even the minimum requirements of an ordinary householder. In certain portions of the city, the citizens have not been getting even that meagre quantity of drinking water-supply. The pressure at which the supply is being given, exasperates even the most patient householder. Some desperate house-holders have located their service-taps in pits below ground level. 'Pit-taps' are recognized to be potential of grave contamination to the entire system of water-supply. The Government have prohibited them in mofussil municipal water works. But even these wholesome directions have no application to the city of Madras! Even Nature is not expected to have her way with the Corporation!

The water has always been discoloured. It has been a green emulsion; only, the depth of colour has been varying with the depth of storage in the Red Hills reservoir. It has been carrying a heavy load of vegetable debris both in solution and in suspension. The water has been unfit for treatment through sand-filters. The filtered water has been, indeed, worse than the raw water on many occasions! To render the water 'safe,' it is being sterilized with a large dose of chlorine. It is about $2\frac{1}{2}$ to 3 times the normal quantity required for the sterilization of water of normal

physical quality. The heavy dose of chlorine in its turn, imparts to the water an iodoform taste or a taste reminding one of the water in the village tanks which are nearly getting dry. Chlorination is the first line of defence in Madras water works. It is taking the place of purification on recognised lines.

The water as supplied has been always smelling of sulphuretted hydrogen. There has been only a seasonal variation in the strength of the smell. For the past few weeks, the stench of the water, strongly suggests that instead of water, *fermenting sewage* is supplied to the consumers! We may add, that some people seriously think so. We are told repeatedly that there are no disease producing organisms in the water and that the public need not be alarmed by the prospect of any adverse effects of drinking this foul smelling water. In the reassuring statements issued from time to time, there is a side light upon the official psychology. It is poor comfort for us to be told that we might as well swallow the effluvia along with water without detriment to our health. The consumer is fast developing a revulsion to the "drinking water." It is forgotten that psychologically a feeling of revulsion is fatal to the enjoyment of the necessities of life. Who would deny that water occupies the highest place from this point of view?

The distribution system has many serious defects in it, far too many to be mentioned here and now. The 'sludge' deposit in it, as may well be imagined should be thick and fermenting. Attempts to scour it out through the fire-hydrants, even if done regularly, cannot be effective. Under the low or no pressure system of supply the 'air lock' in it, has to be released through the service connections. The consumer has

to pay for the air passed through it and not merely for the water consumed!

Let us digress for a moment. Science has so far failed to demonstrate the relationship between the cause and conveyance of communicable diseases on the one hand and the "Sewer Gas" on the other. On this plea a drainage authority cannot surely, neglect its duty in the maintenance of its drainage system and envelope a city with "Sewer Gas." What then is the object of enforcing the rules governing the plumbing of drainage fittings in dwellings? The people cannot be expected to dwell in an atmosphere of "Sewer Gas." They are entitled to protest against any such tendency on the part of a local authority.

The Ministers of the State and the humble slum dweller alike have been suffering this tragic situation in silence. Are the Ministers of the State as helpless as the humble-slum-dweller? If so, it is time that in keeping with current trends that some "direct action" is launched. But unfortunately, we have to look up to the "experts" in this field, for a lead. We do not claim any knowledge in this art. Before the conditions deteriorate further, into desperateness, the Ministry should take the situation by the forelock and take prompt action. If they feel helpless in the matter, any 'expert' in "direct action" in the Ministry itself, may give a lead to the people on the lines in which "direct action" should be taken by the helpless citizens.!

The Madras Public Health Act provides a legal obligation on the local authority to see that the "water supply is at all times wholesome and fit for human consumption." There are many decisions of the Courts of Law defining what is "wholesome" water. We are not here concerned with the legal

technicalities; but what we emphasise here is the right of the rate-payers to demand *an adequate supply of clean, pure and palatable water*. It is recognised by leading authorities that the "water supply which frequently has a bad odour, may produce a health hazard equal to that of polluted water getting into the system." Further even though the water may be chemically pure and bacteriologically "safe," if it is unpalatable and repugnant to smell and taste, it will set up a resistance in the mind of the consumer which is fatal to the enjoyment of water for drinking purposes. When an aversion of this kind grows into a fixation, the people unmindful of the dire consequences, would desperately resort to sources which are far from being "safe." If this happens a water-borne epidemic may flare up. The water authority may try to evade responsibility on the ground that its water is bacteriologically 'safe.' The water authorities owe an obligation to the consumers. If they fail to discharge their legal obligations they will expose themselves to action in torts. The legal profession claims to be the protectors of public rights. Our lawyer friends suffer along with the rest of the society. Madras has won the reputation of having legal luminaries in abundance. May we not expect any one of them to take effective steps to protect the public rights of the rate payers? We make this suggestion as we have almost reached the tether's end. A law suit is the last remedy, when one is driven to a corner.

If the councillors of the Corporation fail to discharge their obvious duty to the voters, they stand the risk of being turned out at the next election. It is only a question of time before the candidates are at the doors of the voters. We hope that the voters would then exercise their franchise wisely.

So far as the Government are concerned they have a graver responsibility. This is not the occasion when we should trace the long, sad and weary history of the "experiments" which were being conducted by an 'expert committee' from 1914. But the committee has eventually succeeded, we hope, in evolving a method of purifying the Madras water and utilizing at the same time the existing sand-filters. The Minister of Health would be well advised to call for the connected records and *personally* examine why further action was not taken on the report of the expert committee and who put an effective break on progress. The Minister of Health has been appealing at every turn, for the co-operation of the people. She is sure to have it in abundance; but on her part she should take the people in her confidence and explain to them the schemes of improvement she proposes to sponsor. She should not simply succumb to the bureaucratic planning which is usually done behind closed doors and then appeal to the people for their co-operation. To start with, she can publish the report of the committee for public information. The report in question is of scientific importance and it would be of interest to the scientific world as well.

In addition to taking steps to implement the recommendations of the committee with or without modifications, the Minister of Health would do well to see that steps are also taken to improve the quality of the raw water at the very source. A gravel bund if thrown round the Jone's Tower at the Red Hills, would help to hold back the grosser organic impurities. A comparatively clear water can be had, irrespective of the variations in quality in the lake proper. A small basin so enclosed by the bund would help to treat the water chemically, whenever

necessary, in an economical manner. Chemical treatment of the entire volume of water impounded in the Red Hills, is economically infeasible. Having thus secured an uniformity in the quality of the raw water, subsequent filtration through the sand filters would be effective. The distribution of raw water to the filter beds through fixed jets at adequate pressure, would correct the contents of the raw water and avoid the chances of sulphuretted hydrogen being generated in the filters themselves. The problem is a long pending one. If the Minister of Health brings about the improvement in the city water supply, she would be winning the gratitude of the helpless citizens of the city of Madras. They may voluntarily contribute funds liberally for a statue of Srimathi Rukmani Lakshmi pathi, the first woman Minister of Madras!

Cleaning the Cooum.

The once famous silvery Cooum meanders through the City of Madras. It has won the notoriety as a serpentine cesspool emitting excruciating smell. The citizens of Madras have had their olfactory nerves deadened by the constant inhalation of the foul gases. Despite this fact, even now, the citizens develop at times nausea or a sense of suffocation. This nuisance has been long with us.

The responsibility for maintaining the water course to discharge efficiently all the flood flow rests with the Government. The obligation of maintaining it in a sanitary state is vested in the City Corporation. As between the two authorities, the river is neglected. In consequence, the citizens have to suffer. The legal liability for the proper conservancy of the river so as not to be a

nuisance or injurious to health should be determined. The Government owe a responsibility to the public in this matter.

A sewerage scheme for certain portions of the City has been introduced with the laudable object of making the city healthy. But has the object been achieved? The overflows from the sewage pumping stations are allowed to discharge into the Cooum. It is an obviously bad sewerage engineering practice which has aggravated the smell nuisance from this source. To abate it, several expensive and fantastic remedies have been tried and tried in vain. The latest attempt is to open the sand-bar which blocks the mouth of the river by pumping accreted sand from the sea. There was a difference of opinion between the expert advisers of the Corporation on the one hand and those of Government on the other. Somehow the scheme of the Corporation has been pushed forward. Recently, an attempt to implement the scheme was made. The results of the recent experiments are given to the public through the Press report which appeared in the columns of the *Hindu* dated 21st September, 1946. (*Vide* page 6, column 4). Who is to be held responsible for the accuracy or adequacy of the information furnished in this report?

The Executive Officer of the Corporation rightly adopted the course of issuing an authoritative Press communique when the controversy over the soundness of the Corporation scheme was raging. We wish that the same course had been adopted to reveal the results of the recent experiments. So far, no statement has appeared in the press challenging the accuracy of the information published. We may therefore assume that the press report, so far as it goes, is correct.

For ready reference, we give here-under the Press Report referred to above :

The cutting of the sand bar at the mouth of Cooum and the resultant flow of sea water into the river at high tides for about four days last week has helped to remove the stench out of the otherwise stagnant waters of this river.

The cutting of the sand bar was done with the help of a sand pump which has been secured by the Corporation of Madras in connection with the scheme for improving the Cooum. The pump, which is mounted on a pontoon, has been working for about 20 days. A channel about 70 feet in width was cut with the aid of the pump for a distance of about 300 feet to connect the sea with the stagnating water of the river. The last part of the work was completed early last week.

For about four days after the sand bar was cut, sea water was noticed entering the river at high tide and flowing out into the sea during low tide. According to the observations made by Corporations officials, the rise of water varied from half a foot to one foot. This action of the waves had the effect of flushing the Cooum and removing the stench which was markedly offensive a few days back.

The mouth of the river has again become blocked with sand washed ashore by waves. But this accretion is stated to be not so heavy as was anticipated. If there is no rainfall, this accretion will also be removed by the end of this week or early next week to let in sea water.

At present arrangements have been made to note the behaviour of the river and the sea for some time, before formulating proposals of a permanent character.—“*The Hindu*” dated 21st September, 1946, Col. 4, Page 6.]

Now let us examine its contents. It said that for about four days after the sand-bar was cut “sea water was noticed entering the river at high tide and flowing out into the sea during the low tide.” Instead of this indefinite statement, we wish that the authorities had given actual levels of the high and low tides with reference to the river level, the duration and similar relevant information. Above all, the dis-

tance to which the tidal flow reached is a material point, of which no information is furnished. There is definitely a public feeling that the recent experiments, far from improving the conditions, had made the situation worse. It would appear that the comparatively clear supernatant water was drained into the sea reducing the water level perceptibly and leaving behind a concentrated emulsified sewage.

It is reported, as a result of pumping the sand for about 20 days, a channel 70 feet wide was cut for a distance of 300 feet. We would like to know how long the channel so cut, maintained the connection between the Cooum and the sea ; or to put it in another way, how soon was the sand bar closed disconnecting the connection. If information on this is furnished, it will help to understand whether it was possible at all to flush out the stagnant water in the Cooum into the sea during the low tide.

The cost involved in the process is another material point on which the rate-payers are entitled to have information. After all, it is they who have to foot the bill eventually.

On a point of information on the executive side, we should like to know the precautions taken to prevent the pontoon on which the sand-pump was mounted from being dragged into the sea. It is said that the pontoon was actually dragged into the sea and it was with some effort that it could be brought back to the shore.

Incidentally, we would like to enquire whether the government engineers have no responsibility in the matter at all and whether they could sit with folded hands watching the work being executed by another agency without any consideration for the consequences of the execution of the work.

What we are driving at is that such schemes should not be pushed ahead to the point of execution without fixing the responsibility for the professional advice tendered. Is it a case of “heads I win, tails you lose?”

“In many professions, a mistake in judgment of commission or omission or a default without intention of the individual, does not detract from his status, although it may indirectly affect his reputation ; but similar error on the part of the engineer may involve public condemnation and in consequence prospective ruin”—so says N. Maas in his article on “The Engineer and his *locus standi*” in the *Central* (June, 1939, page 8).

In the name of the engineering profession, we caution engineers not to dabble in works in which they cannot claim competency. If they do, they should be made responsible for the unprofitable outlay involved in their inexpert advice.

Government also owe a duty to the public in this matter. They cannot allow with impunity a local authority to fritter away its funds on schemes which are not approved by any responsible authority. The rules governing the technical sanctions should be examined and amended in the light of this and other similar experiences. The rules so amended have to provide a maximum limit for the power of technical sanction of the engineers of the Corporation as well. This reform is long overdue.

It is not infrequently that we come across local authorities charged with statutory obligations in the matter of drainage and sewage disposal creating nuisance. The Madras Public Health Act should be so amended as to throw a statutory obligation on the local authorities to perform their functions in these respects without causing any

nuisance or creating hazards to the health of the people. The Minister of Health would do well to have this point examined by competent authorities in order that suitable amendments may be introduced in the legislature at the earliest possible opportunity.

The Bhore Committee Report.

A meeting of the Provincial Ministers of Health is shortly to be convened at Delhi to consider the steps to be taken for implementing the main recommendations of the report. It will be remembered that the ‘Care-taker Government’ attempted to bring about such a meeting ; but it was torpedoed by some of the Congress Ministers refusing to recognize the authority of the ‘Care-taker Government’ in this matter. Now under happier auspices, the progressive forces of the country are given an opportunity not merely to embark on ambitious schemes of national reconstruction, but also to modify the recommendations made by committees like the Bhore committee, in progressive directions. So far as Public Health is concerned, it will be remembered that it was for the specific purpose of making a comprehensive review and recommendation that the Bhore Committee was constituted. On page 218 of their report, Volume II, the committee says “In the campaign for improved health, drugs, vaccines and sera can in no way replace such essentials as a hygienic home, good food, fresh air and a safe water-supply.” Nothing could be more admirably stated, but in the very next page, the same committee dismisses the latter considerations in another devastating sentence by saying “We have had neither the time nor the opportunities for a detailed consideration of these problems”, thus

paying no attention to their own scale of values. This is something like the Prince of Denmark announcing that he has made all the necessary arrangements to play Hamlet except for the trifling fact that he did not know what role he himself had to play! Following the American pattern, it would be interesting and it would undoubtedly impress public imagination to give the number of words the report contains, the number of pages, the bulk of paper used and so on! But it is extraordinary that there is so little of an attempt in the course of that massive report to *put first things first*. We therefore hope that the Health Ministers' conference at least will make good the omissions and evolve a plan which will give pride of place to environmental sanitation and build up their scheme of rural reconstruction round this as the grand central principle.

TRAINING A THREE YEAR OLD.

We sometimes expect too much of our small children and it is very important that resentment and antagonism not be allowed to develop in their emotional make-up. It is possible that during the day, they build up a great deal of antagonism towards disciplinary training and this increases nervousness. It is very important that he be gently guided rather than severely disciplined. Try enjoying him day by day, having fun with him. Tell him what a little good boy he is, and avoid the issues in connection with making him mind. The longer you carry on without accomplishing anything, the more difficult it will be ever to gain his co-operation and he may become a much greater problem in the future than he is now. In making him mind, avoid positive commands: for example, a positive command would be for him to "pick up his playthings." A negative command would be tell him not to touch a valuable vase. If he tends to meddle with something he shouldn't, your instructions in that regard are negative. You can always get results if you stick only negative requests, when it comes to making him do something that is a different matter. If, for instance, you were trying to have him pick up his clothes, it would be better for you to say "Let us put these things away" and do it with him in a happy, cheerful manner as if you had no idea of his refusing. On the other hand, if he insists on taking something you have told him to let alone it is a very simple matter for you to put the article away, or have him stay in his room a little while. But whatever you do, do not show irritation in any way. Say to him "These little hands just can't seem to let this alone," so we will have to put it on him where he can't reach it, when he gets to be a big boy, then he can make his hands mind himself.

Now as to the nap. It is impossible to make a child go to sleep but you can put him in bed for an hour every day. If he fusses and cries, let him fuss and cry. Don't let it bother you. A system of rewards would be all right. For example, if he should go to sleep, you could have something that he likes very much, when he wakes up. But *what-ever* the plan is, be happy and gay, and don't by your attitude develop in him a feeling of determination to have his own way.

Children are very apt to get the idea that this matter of obeying is simply a sort of game to see which winds out—Mother or Child; and with this attitude, the child nearly always gets the advantage. Life can be made so hard for these little people that their only defence is the enjoyment that they may obtain from getting the best of their elders. The right kind of home atmosphere is the best treatment. ["*LIFE AND HEALTH*" *The National Health Journal*, published in the U. S. A., "*The mother's Counsellor*"].

THE HEALTH OF THE PEOPLE.

BY

THE HON'BLE SIR N. GOPALASWAMI AYYANGAR,

Member, Council of State.



'PEOPLES' HEALTH' can be looked forward to by its readers with confidence for reliable knowledge, frank criticism, fearless exposure of humbug. I welcome its advent and, in compliance with the request of my friend, its editor, have pleasure in contributing these few very general observations to its first issue.

In all effort at national planning for the rebuilding of India, the re-ordering of her life and the re-making of her men and women, the radical overhauling of her health services is entitled to very high priority. For, far too long has the health of the people been either woefully neglected or half-heartedly tackled; either allowed to drift aimlessly or, worse than every-

thing else, mishandled by faddists and ignorant, half-baked "experts." Health conditions in this country are pitifully low compared to those of other countries. Our heritage of ill-health and insanitation has come down to us through the centuries; in spite of the feeble planless efforts made in recent years, this heritage has only been added to by the changes, economic and other, brought about by modern conditions of living. Our arrears are heavy and we have an enormous leeway to make up. It will be criminal folly any longer to postpone facing squarely the grim realities of the present situation. The problems that stare us on every side have to be attacked with firmness and courage. They require both comprehensive and intensive investigation and research, the results of which have to be placed in easily assimilable form within the reach of every citizen, and his understanding and willing cooperation obtained for the measures necessary for ensuring his good and the good of society. It should, above all, be recognized that the health of the people is the supreme responsibility of the State, which, through its instruments, the different grades of government—Central, Provincial and Local—should discharge this responsibility to the full.

A proper health policy, if it is to be successful, should be *creative* in the sense of aiming at the restoration of the health of the entire community; it should be *dynamic* both in the detection and diagnosis of ill-health and deficient vitality and in the discovery and appli-

cation of cures and prophylactics as well as of all other measures necessary for the protection and promotion of positive health. It should further be integrated in the sense that not merely all the different aspects of the health organization should be closely inter-related amongst themselves but should be intimately associated and co-ordinated with other branches of national well-being which bear upon the people's health.

There is a tradition that a widowed Queen of Kashmir, several centuries ago, raised in the name of her deceased husband a memorial in the shape of an *Arogyasala*. She took, however, particular care to issue definite directions as to how the buildings were to be planned and erected, and the institution organized and conducted. It was her wish that it was not to be a mere hospital for curing those afflicted with disease who resorted to it. It was her special direction that the institution should be provided with equipment and personnel adequate and competent to attract men and women free from disease and to give them advice not only for protecting the health they possessed but for making them sounder still in body.

The latest twentieth century developments of health policy have but attempted to elaborate and perfect the implementation, in all the fullness and universality of democratic and socialistic ideology, the spirit underlying this forgotten queen's crude conception of a sound health centre. The first Commissar of Health for the Russian Soviet Federated Socialist Republic conceived his main task to be "the construction throughout the length and breadth of the land of a comprehensive and united health service based on all practicable prophylactic measures; on the promptest discovery and diagnosis of

any person falling below a prescribed standard of physical and mental fitness; on the establishment of extensive research in every department of medical science, on the provision in genuine accessibility of the wisest treatment not only for the doctors' patients but for the entire population at all ages in whom positive health had to be created." This statement of the ideal or objective of State policy regarding health is by no means peculiar to Leninist Russia. Progressive countries in the world today are practically all moving towards the complete socialisation of the health services. The Bhore Committee not incorrectly summed up the position in the following words :

"The modern trend in the provision of an organized health service of the community seems to be in the direction of ensuring that such a service satisfied the following requirements :—

(1) that the service should be available to all citizens, irrespective of their ability to pay for it, and

(2) that it should be a complete medical service, domiciliary and institutional, in which all the facilities required for the treatment and prevention of disease as well as for the promotion of positive health are provided. Thus, there should be provision for every patient, if his condition requires it, to secure the consultant, laboratory and other special services which may be necessary for diagnosis and treatment. There should also be provision for the periodical medical examination of every person, sick or healthy, so as to ensure that his physical condition is appraised from time to time and that suitable advice and medical aid, wherever necessary, are given in order to enable him to maintain his health at the highest possible level."

We have yet to espy even the faintest indication of any trend of this nature in Indian health policy. There is some progress to our credit in the expansion of hospital treatment of disease in the past. Latterly some advance has been registered also in preventive medical aid. But we have done little in the direction of co-ordinating the two or

relating them to the creation of positive health on a country-wide scale. In recent years, we have sought to develop within limited ranges the spread of both preventive and curative medical treatment, but the distinction between the two is in the main historical, and the attempt to administer them in separate compartments and through different personnel, has only, as in England, retarded the emergence of a really efficient health organization. Above all, the concentration of attention on curative and preventive medicine has engendered the delusion that the two together exhaust the whole range of what is necessary for ensuring the health of the people. The sooner this delusion is helped to disappear the better.

An intelligently thought out plan for a National Health Organization should, broadly speaking, seek to attain four definite objectives :

(a) It should fix, in as concrete terms as possible, the target for a national minimum of positive health and take measures for enabling the entire population of the country to attain that minimum in the quickest possible time and to maintain it thereafter. These measures are those which are grouped under the description 'environmental hygiene.'

(b) It should provide the medical assistance required for protecting, from the onset of disease, individuals in need of such protection—preventive medicine.

(c) It should make available, whether in public institutions or in the homes of the people, the medical relief necessary to individuals for the alleviation of physical suffering and the cure of disease—curative medicine.

(d) It should further set in motion the steps calculated to raise the level

of the health of the people as a whole or of sections of them from the national minimum to the maximum of physical efficiency possible. These steps include the raising of standards of living, the provision of recreational and other amenities, improvements in physical education and the like.

It is not easy to draw a clear line between each of these four objectives and the health policy of the State at any given time must pursue all of them simultaneously. The order in which they are mentioned above is, however, deliberately intended to indicate their relative emphasis and priority in the decision of competing claims between them. Environmental hygiene is given pride of place and must take precedence over preventive and curative medicine for obvious reasons. A healthful environment strengthens the capacity to resist disease and, therefore, reduces its incidence. Preventive immunisation against disease is in most cases temporary and the duration of the protection afforded by it as well as the relief given by a cure is rendered precarious by continuing to live in unhealthy environment. To quote the Bhore Committee again, "In the campaign for improved health, drugs, vaccine and sera can in no way replace such essentials as a hygienic home, good food, fresh air and a safe water-supply."

It is not my intention, in this brief response to the editor's invitation, to elaborate this point or to examine how far, in the actual recommendations they have made, the Bhore Committee have translated into concrete proposals for immediate or early action the principles underlying environmental hygiene, which they have blessed with their approval. I desire here only to enter into a plea for the most active

policy in favour of environmental hygiene and to give it even greater attention than curative and preventive medical relief. The ideal towards which even the democracies outside Russia are working seems to be that every citizen should be able to demand that qualified medical aid shall be available to him whenever he may need it and without its being dependent on his ability to pay for it. In India I would go one step further and urge that the provision of a sanitary, healthful environment should also be declared at once to be one of the fundamental obligations which the State owes to every citizen and which it should discharge to its maximum capacity.

PUBLIC HEALTH ENGINEERING.

The modern conception of public health engineering is much more exhaustive than when its scope was originally confined to the construction of urban water supplies and sewage works. It now includes the quantitative and qualitative control of water supplies in urban and rural areas; the removal and safe disposal of solid and liquid community wastes, housing, town planning, slum clearance, ventilation, air conditioning, and lighting; control of environmental conditions in the preparation of transport, storage, processing and distribution of milk and food on a large scale; control of the pollution of natural waters; large scale control of mosquitoes, rats and other animal insect and bacterial agents of diseases and promotion of amenities, such as swimming pools, playgrounds, etc. In India the medical health services have developed to some extent, the engineering health services to a lesser extent. There is at present a lack of co-ordination between the public health departments manned entirely by medical men with only the medical outlook, and the public works department manned entirely by engineers with only the engineering outlook. The medical graduates who come to this institute for the diploma in public health are given the back ground, they lack, and are enabled to appreciate the modern engineering aspects of public health through the theoretical and practical instruction given by the section. They are taught to observe and assess sanitary merits and defects in urban and rural conditions and suggest and carry out improvements of a simple nature. They learn the elementary principles of housing, building construction, drawing, sketching, surveying and levelling. They are made to carry out the common anti-malaria measures and elementary measures of rural sanitation. They are brought face to face with working conditions in progressive and unprogressive factories.

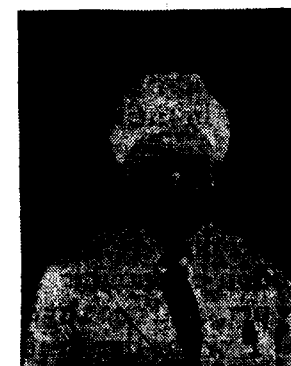
(Dr. John B. Grant, *Indian Health, Gazette, October, 1945*).

WHAT IS EXPECTED OF "PEOPLE'S HEALTH"?

BY

DR. T. S. S. RAJAN.

Ex-Minister of Health, Madras, and the Father of the first Public Health Act in India.



Health habits are both personal and environmental. Precept and practice constitute the basic foundation and without these, no healthy habits will develop. Mere lectures on sanitation and hygiene are of no avail. Even mere knowledge of these things will not help us. Health has to be made and built up and then maintained.

I wonder how many of us, medical men, can boast of being good sanitarians. Unfortunately, treatment of diseases looms large in the life of a medical man. For one thing it keeps him going. People willingly pay for doctors and drugs and believe in both. So the vicious circle of disease and drug continues and develops till at last health is completely forgotten; and cure, though it gives relief and brings credit to the doctor, the unfortunate patient does not get an assurance of freedom from recurring ailment.

The talented editor of this new propaganda and educative venture is not a medical man but a pure, unalloyed Public Health Engineer of no mean order. There is no doubt that a good medical man may turn out to be a sound public health worker provided he forgets all about the curative side of medicine and in consequence becomes, capable on the preventive side of disease as well.

The end and aim of human life is to live well the allotted span of life. Society, religion, faith, culture, and education are meant to serve this supreme end and aim of existence—a happy and healthy life. A balanced state of mind and body produces happiness and health. Wealth by itself produces nothing; but, if employed suitably with knowledge, leads to health and happiness—which is joy. There is such a thing as the "Joy of existence." Yet how many of us realise it? Many have wealth, many more have even knowledge of many, many things, but these alone rarely lead to the "Joy of existence". It is a sense of feeling gradually developed by training and observation and then it becomes a habit.

The time has now come to educate the educated in matters relating to public health. They have not even got the rudimentary knowledge of this subject. Public health consciousness is a matter of right education. It seems to grow with true nationalism. Where an individual begins to think beyond himself, therein begins the germ of public health. The man commences not only to think of himself but also of his neighbour. Nationalism therefore is a group consciousness by which the individual gradually ceases to be self-centred and extends his thoughts to the welfare of his neighbour. There is a correlation between public health and national consciousness. The defect with us today is the blurring of this consciousness due to a certain extent

to our political serfdom which deprives us of our initiative even in matters of self-preservation, and to a large extent due to the limitations imposed by communal and caste consciousness developed through centuries. In this way, public health development is a form of patriotism. It is in no way different from the urge for freedom and national endeavour.

The first step in this evolution of a healthy state is the effort to elucidate the vital difference between the cure of disease and the prevention of disease in the public mind. Disease in most cases is the result of an incorrect way of life, and is an attempt on the part of nature to repair the wrong done. Thus, manifestation of disease is in itself an attempt at cure. But few people realise it. Pernicious habits and ways of life unconsciously get planted in early life. They persist and have the tendency to

develop and get deep rooted through age, thus producing a chronic and incurable state of ill-health much to the detriment of individual and national life. I trust Peoples' Health will be educative and informative, and build up national health consciousness on correct scientific lines. There is always the fear that science may be utilized to fortify superstition and perpetuate popular wrong belief. Patriotism has often been diverted to support and strengthen quackery. "People's Health" should fight exploitation of popular sentiment for unworthy personal ends by designing individuals. I wish the Editor God-speed in his rather difficult and uphill task.

The trouble with us to day is that a great majority of people in authority are trying to make something for themselves instead of making something useful of themselves.

Very often knowledge dawns on people after hopes have been frustrated and shattered. "At the beginning of the last century, medical teachings and doctoring were held by many of the greatest minds to be a collection of uncertain prescriptions, the results of which, taken collectively, were more fatal than useful to mankind". Napoleon said that the chief articles in his pharmacopoeia were water, air and cleanliness, formulating thus epigrammatically the principles underlying the Science of health and hygiene." (*Useful information for the Home by Dr. W. Lauzun-Brown: Publishers S. Trenner & Sons, London.*)

What is the Ideal of Society ?

BY

DR. SIR RM. ALAGAPPA GHETTIAR
K.T., M.A., D. LITT., LL.D., BAR-AT-LAW.

The age of 'Please remember the poor, they cost you nothing' is now happily over. We are now living in an era when we are made to think of the poor, of our needy neighbour, of our unfortunate brethren and are compelled by the State to contribute our might to the betterment of those who have not been so blessed by God as ourselves. The health and happiness of our neighbours are becoming increasingly our concern as much as our own. A new order of society is now being inaugurated wherein even the poorest can lay a claim for food, shelter and clothing on society. Thus the basic requirements of the individual's health and happiness have become a burden on the community. We have no longer any need for religion that does not solve human misery and our social ills. In the words of Swami Vivekananda—One can reach God only by serving man.

Today the nation's health is not so much the province of the medical man as that of the statesman. Our leaders, our statesmen should strive to build it upon the five corner stones of clean air, clean food, happy work, clean surroundings and clean mind. The problems of health are not so much medical as social and economic. Slums, underfed children, alcoholism, poverty and unemployment are problems of the modern city and the present social system is intimately connected with people's health. Fresh air, good food, happy work and decent accommodation are the basic needs of every human being. Deprive him of these elementary rights, you set in motion many physical, social and moral ills.



You may fill the country with hospitals, but you will not give the people the health they need until you satisfy their minimum needs. Sir John Simon, in a famous report has said: "The public health of a country means the health of its masses, and the masses will scarcely be healthy, unless they be at least moderately prosperous."

"In this world" says Goethe "there are so few voices and so many echoes." Today there rises forth for ever one authentic voice—a voice that summons mankind to live a life of fellowship. Mahatma Gandhi impresses upon our minds the truth that our neighbour's poverty and squalor are in effect our own, and that in the Ocean of Society there are no Isles of the Blessed. He tells us too what Wordsworth said: "The wisest, happiest of our kind are they that ever walk content with Nature's way."

Health is something positive and not merely the absence of any disease. Health includes, happiness and prosperity and those who work for public health may well bear in mind that the conquest of health in its broadest aspects is the highest ideal of Society.

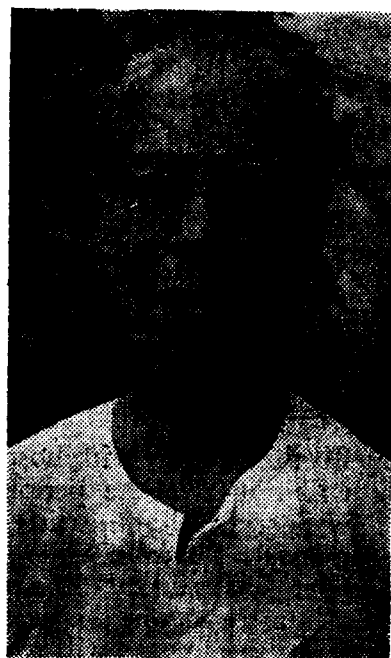
PUBLIC HEALTH AND THE DOCTOR.

BY

DR. M. R. GURUSWAMI MUDALIAR, B.A., M.D.,

Consulting Physician.

President, Association of the Physicians of India.



There was a time when the medicine man was looked up to by the community, for about everything in life. He was expected to look after both the spiritual and material welfare of the people. He was the priest, adviser and custodian of all family secrets. As centuries rolled on, and the community expanded, he could no longer cope with the multifarious demands of society. He was no longer an AGASTYA—the spiritual leader, physician-in-chief and teacher of literature. His function had to be divided among many—each a specialist; some specialising in spiritual practices, others in literature, still others in the healing-art and so on, giving rise to various “crafts” that came to be established.

The present day doctor, avowedly no longer an authority on spiritual and other matters, has not yet divested

himself of the illusion that he can be an authority not only in curing but in preventing diseases. There are, no doubt, some diseases wherein he can fight unaided. But when it comes to infectious and communicable diseases, he would be foolhardy if he thought that he can tackle the problem unaided. He is taught about the causative factors of these diseases. He has learnt about the life history of these parasites and infective agents as worked out by entomologists and biologists. He realises that, for effective prevention of the disease, the parasite or infecting organism must be attacked at some vulnerable stage of its development. I shall cite one or two examples :

Take the mosquito-borne diseases like malaria or filaria ; or a fly-borne disease like dysentery. The malarial parasite has two cycles of development, one in man's blood—the intra-corpuscular, the other in mosquito's stomach—the extra-corpuscular cycle. The doctor may hope to cure the malaria patient by his drugs, but he cannot prevent the spread of malaria to other individuals. He has to call in to his aid or the aid of the community the sanitarian, so that the mosquito—the carrier—may be wiped out of existence. Herms and Gray in their latest book, “ MOSQUITO CONTROL,” state : “ Application of oils and larvicides are essentially substitute or an auxiliary measure of temporary or seasonal value to be employed, when drainage is not practicable or not completely effective. The possibilities of drainage should therefore be thoroughly explored in each instance and constantly kept in mind in conducting an abatement service.”

The medical man would be absolutely out of his element if he tries to provide sub-soil or storm-water drainage. If the well known canons of financial propriety are strictly applied, the physician who tries his hand in this job may be compelled to pay the cost of the work done, out of his pocket, on the ground that the works executed by him had proved infructuous.

Herms and Gray further state : “ When oil or other larvicide is necessary as an auxiliary or emergency control measure, its application to a mosquito-breeding place should be considered with regard to suitability, effectiveness and a relative cost of the available methods and types of equipment. . . . In addition to the cost of the oil or larvicide, including the expense of handling, preparation, delivery and storage, any method of application must take into account the following :

Labour cost.

Cost of superintendence and office overhead.

Operating cost of equipment.

Charge for the transportation of equipment, materials and workmen.

Depreciation on equipment.

Interest on equipment investment.”

The medical men, including those who have undergone a post-graduate course to equip themselves for appointment as Medical Officers of Health, (I would prefer this designation to “ Health Officer,”) cannot lay claim to any training on the organization of labour which is getting more and more complicated. Medical men as a rule, are not good at figures ; few of them would be able to work out problems on interest or depreciation costs on tools and plant, especially on the mechanized ones. Modern tendency is to use

mechanized plant as far as possible in works of this nature. I am convinced that it is altogether wrong, even inefficient that medical men should saddle themselves to perform duties which are, on the face of it, beyond them. Malaria engineering is a distinct branch of work. Engineers alone are competent to undertake such work. Medical men whatever their designation,—Malaria Officer or Malariologist—should not be entrusted with this work. The Bhoire Committee Report has rightly included “ Malaria Engineering ” in the syllabus for the proposed diploma course in Public Health Engineering. Anti-malarial measures primarily and predominantly involve engineering efforts. In the interest of progress, and in the interest of the medical man, this work should be entrusted to malaria engineers. They should be permitted to occupy their rightful and independent status in the organization.

In the case of fly-borne diseases, the breeding place of the fly, the garbage and rubbish that is allowed to accumulate near habitations, has to be avoided. The cook-houses should be free from flies ; so also, the cooked food should not be exposed to them. Latrines should be so located, designed and constructed that there is no chance of the contamination being carried to the kitchen by the carrier. These are again properly the field of the sanitary engineer. The doctor had been all along in charge of the collection, transport and ultimate disposal of filth and refuse. Was he able to improve any one of these items ? We still follow the primitive methods. The reason is the doctor by his training and inclination is unfit to do this kind of job. The Bhoire Committee Report has laid special emphasis on the importance of improving man's physical environment as an essential part of the cam-

paign for promoting the people's health. They have rightly pointed out that the modern tendency is to place the functions associated with all services connected with environmental hygiene in the hands of an engineer who has had special training to deal with the problems of environmental hygiene and to relieve the medical officer of these duties in order that he may concentrate on his preventive and curative medical work. But it is rather unfortunate that the committee had had neither the time

nor the opportunities for a detailed consideration of these problems. What I urge strongly is that the Ministries of Health should review the present organization and take immediate steps to re-orient and re-align the public health services so as to ensure efficient team-work, delimiting the functions of the medical profession on the one hand and those of the engineer on the other. These two services should be like the two eyes of an individual with the same aim and with the same view.

UNITY OF ORGANIZATION OF HEALTH SERVICES.

The organization of prophylactic and medical aid of the population of U.S.S.R. is regarded as one of the *basic* duties of the State.

A People's Commissariat of Health, with the same powers as the other Government Commissariates was formed in June, 1918.

A health department was set up at each local soviet.

"These bodies took charge of medical care, anti-epidemic measures, sanitary inspection of food, housing and public utilities (water works, drainage, laundries, etc.) they are *responsible* for the protection of the health of the workers and peasants; provide for the health of the children and adolescents, and protect maternity and infancy; control the health resorts; are in charge of pharmaceutical and medical supplies; provide for the sanitary education of the masses; train physicians, medical assistants etc."

This brief enumeration of the functions of the People's Commissariat of Health and of its local departments shows that the health service of the land of the soviets is *completely centralized*.

Thus the unity in the organization of the health service is the first distinguishing feature of soviet medicine.

(From the Health Protection in U.S.S.R.).

THE WAY TO PEOPLE'S HEALTH.

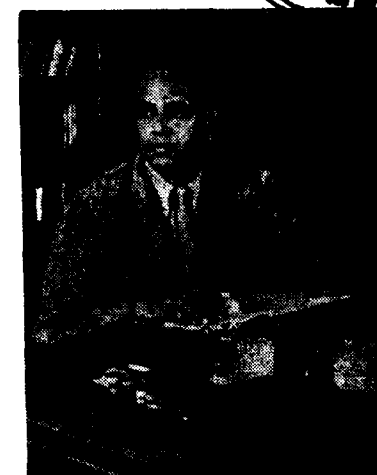
BY

RAO BAHADUR DR. C. RAMAMURTHI, B.A., M.B.B.S., D.S.S.C.

INTRODUCTORY.

By people's health is implied their good health. It may be secured by attending to the health of the individuals of whom the people consist. Each individual is first conceived and then born; and after birth passes through the stages of infancy, childhood, youth and old age. Therefore the people's health may be secured by attending to and following up the health of the individual from the time the individual is conceived to the time when the individual passes away in old age. Thus by taking care of the health of the individual in all these stages the people's health may be secured.

It is interesting to know how life goes on in this planet. It is more mysterious and wonderful than Aladin's wonderful lamp; it is like a fairy tale. We hear a great deal said about the "simple life." The idea behind it seems to be that people would be really happier if they went off and lived in a cottage in the country and did without many things they consider now essential for their happiness. In such a "simple life" the people are expected to eat plain food that requires little or no cooking; to drink water straight from the crystal well or the sparkling spring or from the placid tank or the limpid flowing water from the river; to wear, any sort of clothes without regard to cleanliness, elegance or protection, or almost none at all; to take exercise only by walking or working in the fields instead of playing any games suitable to the age of the individuals; and to read books at home in the evenings instead of seeking recreation



by dashing off to the club, cinema, opera, theatre, or like places of diversion. In counterblast to this idea of the "simple life" we have the present day slogan of "raising the standard of living." What one should understand by this is hard to imagine. For, different persons give different interpretations to the phrase. And most of them seem to give us the impression that one may have to pitch up one's earnings and probably may have to spend more than what one may be able to earn! At one time it used to be said that contentment was the bedrock on which the edifice of all happiness was built. But now, we adore "divine discontent"! and condemn "cursed wantlessness"! With a little introspection we may have to ask ourselves the question whether we are really happier today than in the days when contentment was the ideal. Often we feel that the "ordinary life" suits many of us quite very well. What is this "ordinary life"? It is the life in which every one of us responds to the environmental stimuli in the normal way, with our

common knowledge, intelligence, and above all, common-sense. The greatest happiness in life seems to be derived from the correct response we make to the demands made on it by our surroundings. Every living thing is acted on by its surroundings; and it reacts to them. Its activities and habits are so modelled to suit the surroundings as to enable the living thing to go on through life without a hitch. Thus life goes on. That seems to be the "ordinary life."

We should recognise one fact; and it is this: In large cities and towns we are quite used, now-a-days, to having many things done for us often by merely pressing a button as it were, while our forefathers had to do the same for themselves at much expense of time, trouble and labour. Today, if we want light we put the switch on and there is light; we do not have to strike a match and light a wax candle or oil lamp; nor set fire to a tinder from the spark got by striking steel on flint. If we feel cold we turn on an electric heater or light a gas fire to warm ourselves; we do not have to chop wood to suitable size or break coal to suitable lumps to light the fire to warm us. If we are thirsty we turn the tap of the filter and draw water to drink; we are not obliged to walk to a nearby well or spring for it. If we want to speak to persons far away, we do not have to make a journey to their place; but we can talk to them on the 'phone from our seat, or send them a telegram. Trains, motor cars, buses, trams and aeroplanes are at our service to transport us quickly to our destination reducing time and distance.

In olden days any one man could learn, for example, in a few years all that was known about the art of healing. But in the present day no

one can expect to know more than a little bit of everything that has been learned about the human body. To-day the position of the "family doctor", who spent many years in studying the inside conditions of the human body in health and disease, is unable to find out all he wants to know about it, to give it relief from some of the diseases that afflict it. He has to call in the aid of "Specialists", who are doctors that have given most of their time and intensive attention to one part of the body. That part may be the eye, the throat, nose and ear, the stomach, the kidneys, the nerves, or some such special part of the body. The more the specialist goes on learning about his one particular part the more there seems to be still to be learnt. The same may be said of any branch of knowledge required for any business or profession. All that each and every one does is just "a little bit" of the work that has to be done to keep life going. Only these "little bits" fit into one another like the pieces of a jig-saw puzzle, and so make the picture we call "life". This life must be full of health and vigour that it may go on.

My object here is to deal with a picture of life that is full of health. Suppose you go to a new country which is not peopled, and settle down there; and the country has a small population of settlers like you. Then, instead of having things done for you by others such as farmers, gardeners, builders, plumbers, doctors, lawyers, teachers, engineers, policemen, shopkeepers, green-grocers, washermen and persons of such various vocations and occupations, you will have to do almost everything you require, for yourself! You will have to clear a bit of land, plough it and sow the seed in it; and thereafter reap the harvest to

secure your food. You cannot buy food; you have to grow it yourself; or hunt for it. You have to be your own cook. You have to be your washerman. And if you are ill, you have to be your own doctor to the best of your abilities and treat yourself with the medicine that you can brew from local herbs. You have to build your own house with whatever material that is available near at hand. You have to dig your own well for water-supply. You must defend yourself against any attack on your person or property. And if you have children, as they grow up you have to be their teacher. In short, you have to be a "jack of all trades" to be successful as a settler in the new place. We have heard it said often that a "Jack of all trades is master of none." And yet we know from history that the early pioneer-settlers of distant lands were able to get along with no one to help them in their different and difficult needs. They were good "Jacks of all trades." In fact, they accomplished many things which to-day we think we could not do without specialists or experts. And somehow or other they managed to keep their life going in the settlement. It is only after they cleared those regions and settled down in the place that the road-makers, the layers of rail-roads, the town-builders and planners, the engineers, the doctors, the lawyers, the teachers and the host of others pursuing the various professions and vocations came on the scene to play their part. The "simple life" of this original settler grew into the much more complex and varied life of the community in which each member has his own "little bit" to do which he does. He is helped by the services of others who all contribute their different "little bits" to keep the community

life going on. The original settler lived "close to nature", as it is said, with no help from any machinery but with only a few simple tools. This shows what life would be like in a "primitive" or "savage" community in the days gone by at the dawn of history. But there is this difference between the "savage" of the pre-historic times and the settler referred to above. The latter passes quickly from the so-called "Simple or savage life" to the complex "civilised life" of modern times; while the savage, left to himself, goes on remaining in the same savage state. He lives very much like his ancestors of thousands of years ago, without any appreciable change in the mode or manner of his life. The capacity of the settler to change or "adapt" himself quickly to "civilised life" is due to the greater ability he has to be educated and trained. We have to take advantage of this capacity. Civilised man has to educate and train persons to maintain and improve their health, strength, vitality and human efficiency—the essentials of human happiness.

In the world of living things the lower down the ladder of life we go, the more wasteful the organisms are in producing and looking after their young, with rare exceptions. Enormous numbers are produced; but they are not all cared for after birth. Only very few survive to reach the adult stage of their lives. The way their life goes on is very wasteful. In the plant world even the higher plants adopt only the wasteful method. They do not protect their young even for a brief period. On the other hand, in the animal world, particularly among the land animals, the higher you mount in the ladder the fewer the number of offsprings produced by the parent and the longer the protection

given to the young. The higher animals, which are marked by the possession of a nervous system of greater and greater complexity as you ascend higher and higher in the scale, have the careful way of producing and bringing up their young. Thus they propagate their kind. When we turn to the animals living on land we find many examples of both parents (fathers and mothers) spending a lot of time and care in guarding, feeding and training their young. Higher animals, that is to say, the animals with better brains take more trouble over this task than the lower animals, that is, those with lesser brains. As a rule, when we climb up the ladder of life from the simplest animals up to apes and man, we find that fewer offspring are born and a longer time is devoted to their rearing. It will be very much interesting to follow the insects going through their cycle of life. The little ant and the honey-bee will give us lessons about how to live as a community. Even the snake and the crocodile have some thing to teach us about how to protect the young. The example of birds is very instructive to us not merely to show how they protect their young but also to show how patiently they teach them to take on their adult activities. When we reach the highest rung of the ladder of life, that is, mammals to which man and his nearest relations in the animal world belong, the same rule holds good. As we mount higher, the

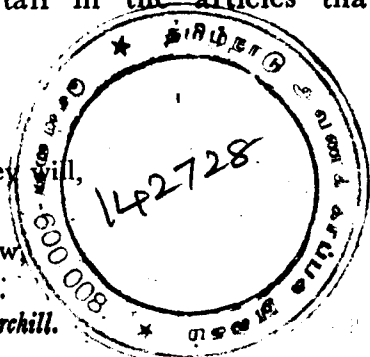
families get smaller; and the period for which the young ones stay under the care of the parents gets prolonged. Taken as a whole, the mammals follow the rule of "few and careful" the nearer they are to man in the ladder of life. In other words, the better the brains, the longer the animals take to grow up and be brought up to the adult and mature state. The truth of the statement is borne out in the facts shown below:

Lemurs take two to three years to reach adult age. Baboons and common monkeys take three to eight years; Gorillas, Chimpanzees and Orangoutangs take eight to twelve years; savages take twelve to fifteen years; and civilized man takes eighteen to twenty one years. During his long formative years the foundations of health for man should be well and truly laid. In fact, they should take the form of habits of health. It is only then that conditions of health will be automatically maintained.

As health is one of the essentials of human happiness it must be given at least as important a consideration as is given to any other factor such as wealth which is considered essential to secure it. People's health is an asset to the country as it will enable them to work and earn, and enjoy life in its full measure. Therefore its quest must be the concern of everyone. How we may set about the quest we shall detail in the articles that follow this.

The surest road to health, say what they will,
Is never to suppose we shall be ill,
Most of those evils we poor mortals know
From doctors and imagination flow.

—Churchill.



A PLEA FOR A NATIONAL PUBLIC CLEANSING CORPS.

BY

A. V. R.

We have air, land and naval forces to protect the country against foreign aggression. We have organized Police forces on military lines to maintain internal order and peace. Recently, there has been a proposal to organize "National Guards" to cope with communal clashes which threaten the peace of the land.

"Swaraj would come to India, not through Parliamentarians in Legislatures but through the efficient and conscientious discharge of their work by the 'Bhangis,' and other workers, without looking for reward or other praise in the form of Municipal and Public addresses. To be born a "bhangi" is the result of great *punya* in a previous birth." So, stated Gandhiji as early as 1936 in the course of his address to the Congress volunteers at Faizpur. A 'bhangi' can rightly turn round and ask those who follow the lead of Gandhiji "what is it that you have done to encourage us to do our bit in winning Swaraj for the country?" The 'bhangi' has to wait for an answer!

The war against dirt, disease and qualor is bound to be a long drawn-out one. The enemies have already secured a deadly grip over the people.

I ask, "Why not organize a National Public Cleansing Corps?"

The scavengers or 'bhangis' as a community should go. Public cleansing ought to be raised to the status of a profession—an honourable profession at that—open to every citizen without any distinction of caste, class or community. No indignity should be

attached to the profession. Have we not seen the spectacular marches of the mayor and the councillors in Madras with brooms in their hands in the campaign for city cleaning? Have we not heard reports of the municipal councillors of Ahmadabad headed by the President, cleaning the streets of the city in June this year, when the sweepers went on strike? These caste-men and high placed citizens should have felt it an honour to render such service to the society.

Conservancy continues to be a major function of the medical-public health department. Valuable professional knowledge acquired by this class of officers in an altogether different field—affording relief wherever they can, to the sick and the suffering—is wasted in driving the conservancy staff. The control over public cleansing and the direction of the field operations should no longer be in the hands of those who have not had the requisite technical training, equipment or even aptitude for the job. Medical men are not, as a rule, trained to manage labour; nor can they lay any claim to knowledge of the problems and economics of transport. There is no justification whatsoever for the medical men being saddled with the duties which lie definitely beyond their training and capacity. The net result is, there had not been any improvement in the time-worn technique of the conservancy system. Wastage of funds and inefficiency loom large. In no other system of municipal service, efficiency and economy can be better achieved than in public cleansing service. The

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Ministry of Health in England had collected statistics to prove this beyond doubt. Public cleansing should form one of the important duties of public health engineers. It is a long established practice in the West. Recently, the Bhole Committee Report recognised the necessity for entrusting this work, amongst others, to public health engineers. It should be noted here that the Bhole Committee consisted of 18 medical men out of 25 members. It had not in it even a single engineer-member!

The grievance of the conservancy labourers is that they are not provided with adequate salary to cope with the soaring prices of food-stuffs. They are not given shelter worth the name! The cash left with them after meeting the minimum requirements of living, is inadequate to provide them with clothing. They complain that they are not provided with the amenities of life which human beings are entitled to.

The increase in salary to cope with the increase in the cost of food-stuffs, need not necessarily result in practice, in the extra cash being spent on the purchase of food. As a rule, they do not purchase food, keeping in mind the minimum requirements of nutrition required for the class of work they do. Possibly, the extra money put in their hands may go to the nearest toddy shop! In the circumstances, it would seem desirable to provide them with food prepared under hygienic conditions satisfying the requirements fixed by the nutrition experts. This can be achieved by having a common kitchen for each colony of workers. It would avoid the drudgery and the waste of time and energy in preparing food in individual dwellings. The time so saved could be usefully utilized on work.

The shelter provided at present, does not satisfy even the modest requirements of health and sanitation, leave alone convenience and comfort. Pandit Nehru's pungent remarks on the housing of the scavengers in Simla and the heart-rending observations of Gandhiji on his recent visit to the "bhangi" colony in Delhi, emphasize the inhuman and disgraceful condition in which this class of workers live. Even this apology of a shelter is not provided for all the workers. Many are still living in hovels which are worse than kennels. The location of their quarters is invariably in such sites as cannot be utilized for any useful purpose! The sites selected for housing the conservancy staff are not only to first suffer from the ravages of heavy rainfall and floods, but are usually located well outside the living quarters of citizens as though they are dealing with the location of infectious diseases hospitals! Even in the case of infectious diseases hospitals the modern trend is to locate them with impunity in the midst of dwellings! Are these workers worse than the dangerous infectious diseases? Their grievance relating to their shelter is genuine. Their quarters ought to be located within the area of their work. They should be so designed, and constructed that they would satisfy the minimum requirements of health and sanitation. By the way, the standard in this behalf is still to be laid down in our country!

As regards clothing, they should be provided with standard clothes as in the military. What design should be adopted and what materials are to be used are matters of detail. The workers should be made to discard the clothes in which they do the work; on their return, they should be provided

with facilities for a clean good bath. They should be provided facilities to change over to washed clothes. Unless we instill in them ideas of personal cleanliness and environmental hygiene, how can we expect them to keep the environment of our dwellings hygienic?

As regards amenities, when the elders are at work, the children and the toddlers should be looked after and fed. There should be a school for educating children of school-going age. The workers should be given amenities of recreation and education. The colony should lend itself to adult education and also technical training in public cleansing practice being given. In short, the general hygienic condition of the colony should be such as to make it possible for the Lord Mayor of a great city to respond to an invitation of this class of dwellers to have a meal with them. After all, are not the men in the army looked after with care and diligence? Why not we adopt a similar standard for this class of workers also?

Much is talked about 'elevating' the depressed classes. Administrations vie with each other in announcing how solicitous they are in improving the lot of the depressed classes. Instead of frittering away funds indiscriminately,

why not conserve every pie available for improving the lot of the men engaged in an essential service to the society? Plea of lack of funds is but an excuse. If the will is there, money could be found.

The subject is an important one and should be discussed at the ensuing conference of Health Ministers. If environment should be improved as the first and effective step towards the promotion of the health of the people, this organization should soon come into existence.

If this principle is accepted, it follows logically that the supervising and directing staff should be organized on similar lines. Health work is social work. Unless a person is fired with a missionary zeal and enthusiasm, he should not enter public health service. Public health service should be entirely unlike other services. From the highest to the lowest, a feeling of selfless social service should permeate. The question of salaries, promotions and prospects should not be guiding principles in the organization of service. Such an organization should also give the quietus to the clamour for communal representation in a social service. It should be a field for real workers and not for careerists and communalists.

PUNJAB PLANS BETTER LIVING CONDITIONS.

A plan for new and better villages and market towns was made by Mr. U. A. Coates, the Provincial Town Planner. His ideal village is to be hexagonal in shape with a grassy lawn in the centre, on the edges of which will stand the village meeting hall, the co-operative bank, the post-office, the village library, the village serai and shops. They are to consist of 232 self-contained residential houses, accommodating 1,200 persons. Cattle sheds are to be situated far from residential quarters. The total area of land attached to each village would be about 8 square miles, allowing 20 acres of land to each cultivator family.

New market towns are planned on the principle that the residential quarters should be removed from the administrative and business centres. Each is designed to house 12,000 persons. (*Speakers' Digest Vol. 1, No. 3—Feb. 1, 1945.*)

"THE STRIKE FEVER."

A NEW EPIDEMIC DISEASE.

HOW TO IMMUNISE AGAINST THE INFECTION?

BY
ASWIN.

War, famine and pestilence are well known as agents of death. The last war brought in its wake devastating epidemics like Influenza. It was therefore part of wisdom to have planned to anticipate and be prepared to control epidemics. But there, a disappointment awaited us. Every war seems to breed a different epidemic. Famine there is, but it is not our purpose to deal with it here. The new epidemic that we have to face, which we did not foresee is the epidemic of strikes or "strike fever" as it has been popularly styled.

This new disease has all the characteristics and satisfies all the criteria of an infectious or communicable disease. It has had a well-defined incubation period being of the duration of the war or of the advisory regime. It has come out with virulent signs and symptoms, with unmistakable "spots" and is beyond doubt infectious and ever threatening to spread and assume epidemic proportions.

It behoves us to understand its etiology or causation and then proceed to apply the appropriate remedies. We shall take the strike of the conservancy workers as the subject of our theme.

What then are the causes? The causes are the very low state of our sanitary environment, the absence of any sense of obligation to keep our surroundings clean, the extreme scarcity of any public provision, the crudity of it when any exists, the want of space or means and the paucity of a suitable type of private convenience. All these make for a helpless dependence on the worker and the type of service he gives.

The absence of clean and modern methods of collection, conveyance and disposal of refuse and filth, makes manual conservancy an indispensable necessity. The extremely repugnant conditions of work have relegated it to the lowliest. In turn, they are placed in a position to hold the rest of society to ransom by a threat of stoppage of their service. The scope of the problem as it stands at present should, however, be understood in its proper proportions. It

concerns mainly 10 per cent. of people who live in towns and of these again, nearly half have no sanitary conveniences in their own dwellings.

The sudden withdrawal of these services, however, throws an unprepared society into a feeling of disorganization often approaching panic. Simple remedies and self-help are forgotten. People talk loosely about imminence of epidemics and unwittingly exaggerate the importance and effects of the situation. The ubiquitous fly no doubt, increases enormously in number, but its role again has been considerably overstated. What is more, it can be effectively put down. This, of course, is not an argument that we should be content to wallow in miserable conditions of insanitation. That would make life intolerable. It is enough for our purpose, if it is understood that the question of sanitation is largely concerned with aesthetics and rarely with epidemics. And yet, it is a pity, the medical officers spend bulk of their time and energy in a work which is beyond their legitimate duties!

All these need not necessarily be. What exactly are the remedies? How should conditions be shaped to make life more tolerable both for the public and the worker? Make no mistake about it. The worker is now more and more alive to his rights, though it is a question whether there is the same awakening as regards his duties and responsibilities. He is getting more organized every day to fight for his rights and it is to be hoped that his work will at least in future be equally well upto standards. It may be granted at once that the public at large as well as the administration are quite in favour of 'better standards of living' for every one, in particular, the workers. In fact, every one who has had first hand experience of the miserably low standards of life now obtaining for a vast majority of our population is acutely conscious of the necessity for a wholesale upgrading of all aspects of life from the depressingly monotonous rut in which life is lived today in our villages, in the slums of our towns, in industry as much as in agriculture. How

is it to be encompassed? It is largely a question of economics.

Considering it from any point of view, it is necessary to obviate as much as possible and ultimately eliminate certain types of service. One such type is manual conservancy work. It is undesirable from a health point of view. It is inexcusable from humanitarian considerations. It is economically wasteful.

A sanitary environment is half the battle of clean living. Healthful conditions of living are pre-requisites for the maintenance of health and among these may be counted housing, water-supply and drainage, public cleansing and a host of others which fall under the category of environmental sanitation. Water-supply and water-carriage system of disposal go together. If underground drainage is provided and flush system is available, manual conservancy of latrines which is so undesirable and disgusting can be eliminated. Even dwellings located beyond the sewer line can be provided with this amenity. These are of such great importance that it should be the first duty of an enlightened State to provide them. We can no longer turn round to our public and say that we have no funds to give them *drinking water* or having given it, that we have no means of carrying away the waste water but must needs allow it to stagnate in the midst of dwellings and make life unlivable. If need be, large public loans should be raised for the rapid execution of the schemes. The productive value of wastes need not altogether be lost sight of and can still be utilized even after water carriage system is introduced—provided of course, Public Health Engineering is encouraged in this country as a distinct and specialist job.

And what about better standards of living for the workers? As regards better wages, there is no doubt that their present wages require immediate and liberal revision. But it should be recognized that consistent with the demands of a whole lot of services and within the scope of the present economic system, only a certain amount of benefit is possible and not all that would be considered desirable. Even within the existing set of circumstances, the problem of wages has not so far been placed on a rational basis considering on the one hand the price levels and the cost of living and

on the other the resources and the budget of the employers whether they are private, quasi-public or public. Besides wages, there are various other benefits and privileges to be considered as well as amenities to be provided. Dearness allowance, maternity benefits, bonus, gratuity, insurance, leave, holidays, housing, water and lighting, education and medical relief, are all matters requiring the earnest attention of the authorities and very considerable help from the State. These problems have been with us for sometime. The Madras Ministry is paying active attention to these questions. It has appointed a board of conciliators as well as a Cabinet sub-committee. It is only fair that it should be given breathing time. No cause loses its force by being reasonable. Unwillingness to submit to arbitration will appear to be a sign of weakness of the cause rather than of strength. The ultimate right is always there. The struggle for betterment is not final but more or less continual. The workers can at best be considered only as a cross-section of the public.

And now a word about the suffering public. These are no halcyon days. Within the present generation, we have seen two catastrophic wars which have settled no problem, and have not even succeeded in teaching us that that way lies no solution to human ills. We have gone through a harrowing famine and there is acute food scarcity threatening us at present. Conditions of living are none too pleasant or easy. If to these is added the disorganization engendered by strikes, the public have at least a right to complain and call it hard luck.

This is undoubtedly a time calling for the utmost consideration from everybody a sense of realities of the situation and with all a sense of responsibility and not merely one of rights of a section of the society.

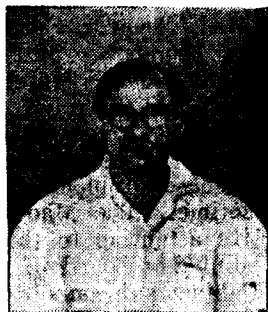
The Premier of India has given it as the ultimate aim to feed, clothe, house, educate and provide better sanitary and health conditions for all our people. In the latest broadcast speech, he was envisaging a Co-operative Commonwealth for India. The Labour Minister of Madras has promised a comprehensive labour legislation.

If we can succeed in eliminating the political factors, the problem reduces itself to a struggle for an entirely new economic and social set up.

"GROW MORE MANURE"

BY

MR. M. S. SIVARAMAN, I.C.S.



1. The recent war has helped to focus attention on the food and agricultural problems of the country, but it must be remembered that our food problem is not a temporary offshoot of the war aggravated by unfavourable seasons. Increasing population without corresponding increase in the means to feed the same has been a disquieting feature in our economic horizon. Undernutrition among the low income groups and malnutrition among most others have been chronic. Attempts have been made to tackle the present food shortage through various approaches by imports from other countries, by extension of cultivation to sub-marginal lands by attempts at intensive cultivation, by partial prohibition of the culture of non-food crops, by more equitable distribution of the available supplies.

2. It is an irony that a tropical country should have to seek for food supplies from countries less favoured by nature. Foreign supplies may help us to tide over the present crisis, but the basic remedy lies in a reorientation of our national agricultural, industrial and economic policies, in husbanding our resources to ensure a rapid advance in agricultural production and a simultaneous increase in the purchasing power of the masses so as to enable them to afford the necessary energy giving and protective foods at a price level which will foster agriculture as a competitive occupation.

3. Protective foods like eggs, milk and meat are luxury articles of agriculture the production of which requires at least four times the area necessary for raising cereals giving the same amount of energy. As the area of profitable cultivation is limited in our country, any general improvement in the

nutritional standards cannot be brought about unless more is produced from the cultivated lands than we are now doing. Intensive production is therefore a necessary prelude to diversification.

4. The problem of increasing agricultural production cannot be solved by any single formula. It is not a mere question of imperfect technique or defective knowledge which can be set right by the adoption of improved methods. It is a complex and complicated problem involving different aspects of social and economic life. The cultivator has to contend against an environment, uncongenial to better production. The tenure and tenancy laws at times discourage his wholehearted efforts. The inheritance laws encourage dispersal and splitting up of economic holdings and distract his energies. Improper shortage and inadequate marketing facilities keep him under the thumb of the middleman. Added to this, he is forced to part with his produce during the harvest glut to meet the demands of the money-lender, and the tax and rent collector. The price of some of his produce is determined by a whirlpool of international forces over which he has no control. His credit is low. He finds it difficult to borrow even for the necessary agricultural expenses. His overwhelming indebtedness, sometimes through causes beyond his powers affect his outlook on life. In despair, he sticks to an agricultural practice attuned to a former system of village economy which has disappeared without leaving anything to take its place.

5. The various forces that tend to affect agriculture adversely have to be served and eliminated. The farmers' problems are really the nations problems. The state has therefore to step in and create the atmosphere for stimulating the maximum of economic production from each and every acre of cultivated land.

6. But agricultural production unlike industrial production is not an exercise in simple arithmetic as assumed in some of the blue prints for better societies. It is an uncertain element, being a function of varying factors like soil fertility, quality of seeds, manuring, village, crop rotation, water supply, climate, rainfall, temperature humidity, wind velocity, hours of sunlight, weed

growth, pests and diseases and numerous other environmental factors. And each of these factors may be as important as any of the others depending on its quantity, and the time and duration of its incidence in the different stages of plant growth. Some of these cannot be changed in the present state of our knowledge others can be altered only at an uneconomic expense.

7. We are therefore left with a few of the factors like soil fertility, better seeds, manuring, water supply, tillage, etc., which can be changed for the better. Leaving aside the social and economic questions, I shall confine myself for the present with soil fertility which is one of the most important factors affecting crop production.

8. The soil is not a static mass. It is a dynamic living organism, subject to constant physical, chemical and biological changes which essentially determine its fertility. It is the home of myriads of microflora—bacteria and fungi whose vital activity help to disintegrate the remains of dead plant and animal matter into a spongy amorphous mass called "humus". The humus is relatively more stable than the ingredients from which it is formed; but even this is slowly changed by other bacteria some of which fix atmospheric nitrogen. The nutrients required for plant growth like ammonia and nitrates are formed in the process. There is therefore a constant resurrection of dead matter which goes on continually in the land under favourable conditions.

9. The presence of humus in sufficient quantity in the soil ensures among other things the requisite conditions necessary for crop production like proper tilth, temperature, and aeration. The soil retains moisture better and there is considerable biological activity leading to a steady and balanced supply of plant nutrients. Humus naturally occupies the foremost place in any system of permanent agriculture unlike the chemical manures which whip up production to start with but inhibit biological activity in course of time, retard natural recuperation and interfere with tilth and soil moisture. The first task of a successful farmer is therefore to keep up the life circle in the soil and maintain and improve its humus content.

10. Unfortunately the soil in our country is in general badly deficient in humus as the tropical sun depletes the soil of its organic matter. The unmanured land depends on

the rotting of weeds and roots of the previous crop for its humus content, and this in turn leads to the formation of just enough plant nutrients to keep up a low outturn. The chief manurial problem in India is therefore not merely the deficiency of nitrogen as observed in the Report of the Royal Commission on Agriculture. It is the deficiency of humus and nitrogen. Of these nitrogen can be synthesised but humus has to be grown.

11. The production of humus from the raw materials takes from two to three months depending mainly on the nature of the raw materials, the reaction and the availability of moisture, combined nitrogen and minerals. Crop and humus production cannot go on together in the absence of sufficient moisture, nitrogen and minerals, for then the microflora will compete with the crop for the limited available supplies and the crop will suffer. Humus has to be produced separately for application to fields under rainfed conditions. This is the secret of the success of the Chinese farmers who have kept up the fertility of their soils at a remarkably high level for over 4,000 years.

12. The scientific background of the ancient Chinese practice has received wider recognition after the publication in 1921 of the results of the Rothamstead experiments by Hutchinson and Richards on the conversion of straw into manure without being fed to livestock. All waste products like the dejecta of man and animals, the by products of industry, the remains of plants and animals contain an abundance of pent up solar energy. This energy is utilized by microflora and in the process the waste materials are converted into humus rich in its potentialities for sustaining plant growth. It follows from this that the burning of cowdung which has been lamented by many as a serious flaw in our agricultural practice need not be viewed too tragically provided the ashes are used in agriculture and the dung replaced by artificial organic manure made from other available waste products.

13. The preparation of such organic manure is easily done in pits which should not be more than two feet in depth. The waste materials are moistened if dry and placed in the pits and inoculated with bacteria and spores of fungi by sprinkling a small quantity of cattle dung mixed with water or a handful of earth charged with cattle urine taken from the cattle yard. Ash is added to keep a favourable reaction and

provide readily available minerals for the rapid development of microflora. The contents of the pit should be turned over after 15 days and then twice at intervals of a month. Water is sprinkled to keep up the moisture content. The manure will be ripe for application even to dry crops in 3 months.

14. The fermenting mass rises rapidly in temperature within 24 hours of the inoculation. Seeds of weeds, noxious parasites and carriers of disease are mostly destroyed in this process. Flies do not breed in these pits. It may be mentioned that the scrupulous husbanding of all organic wastes so universally practised in China and Japan has in fact reduced the fly nuisance in those countries. There is no reason why we should not follow the example of the virile Mongolian races in the rural areas and inaugurate a new era of rural hygiene—an era of freedom from flies and the infectious diseases spread by flies. The resulting improvement in the rural health and sanitary conditions will reduce premature deaths from preventable causes and stop the present toll of wasted lives.

15. All over the countryside on the sides of hills and mountains along road, railway, canal and tank margins and on waste and fallow lands, there is an abundant growth of weeds and plants which have only to be gathered and composted to form the much needed manures for the cultivated land. Yet 90 per cent of the cultivated lands is hardly manured even when the food situation is so critical. Waste lands and the road and rail margins can be made to yield a good crop of plants which are not browsed even by goats like Kalingi (*Tephrosia purpurea*), Physic nut (*Jatropha curcas*), Erukkai (*Calotropis gigantea*) Mulagai Pundu, (*Croton parsi-flo-*

rus). The fallow lands should be able to produce a legume during the fallow period and this will incidentally enrich the soil. Systematic planting of shrubs and trees the leaves of which form good manure and which can be easily propagated from cuttings like the Indian Beech (*Pongamia glabra*), *Gliricidia*, *Jatropha Curcus*, Malabar nut (*Adhathoda vasida*), Vadanarayana (*Poncianalata*), *Porta* (*Thespesia populnea*), etc., will go a long way to provide the materials needed for making artificial manure. Single crop wet lands should invariably grow a green manure crop like Sannhemp (*Crotalaria juncea*), Indigo, Daincha (*Sesbania aculeata*) *Sesbania Speciosa*, Pillipesara (*Phaseolus trilobus*) etc. If the interval between the harvest of one crop and the transplantation of the next is considerable the green manure crops should be harvested at the time of flowering or before the stems get woody and then stacked in compost heaps for application at the time of transplantation, following the practice in vogue in China. *Gliricidia* planted on the bunds of paddy fields yields from year to year enough green manure for the field and it has a great future in the manuring of paddy fields.

16. The Solar energy captured from uncultivated and uncultivable lands should be used to vitalize the cultivated lands. Every farmer has to learn to be a chemical manufacturer employing countless millions of bacteria and fungi as the willing workers in his field factory. There can be no dearth of plant materials in a tropical country like India. What is needed is the stimulus and the will to grow, gather and utilize them. What is needed is a vigorous campaign for "Grow More Manure".

WHAT A MAN CAN ENDURE?

It is on record that a man can:—

Live without sleep for ..	115 hours	Dive below water to ..	500 Ft
Live without water for ..	22 days	Run (in 59 days) ..	5,625 miles
Live without food for ..	75 days	Walk on his hands 16 miles	
Hold his breath for ..	20 mins. 5 Secs.	per day for ..	55 days
Stay under water for ..	6 mins. 29 Sec.	Hike on stilts 1 mile per	
Live in a heat of ..	120 Deg.	day for ..	58 days
Live in a cold of ..	—75 Dig. C.	Squat on a pole for 10 days.	14 hrs. 34 Ms.
Withstand noise of ..	130 decide ls.	Parachute jump from ..	30,800 Ft.
Glide for ..	465½ miles	Have a family of ..	44 Children
Climb without Oxygen to ..	28,200 Ft	Live with heart stopped for.	20 minutes,
Climb with Oxygen to ..	74,000 Ft.		

LILLIPUT (August, 1946).

HEALTH WORKERS!

FOR YOUR BENEFIT

BY
ONE OF YOU.

REFER YOUR PROBLEMS TO US. THEY MAY BE BAFFLING OTHER WORKERS ALSO. WE SHALL HELP TO SOLVE THEM. IF YOU HAVE SOLVED ANY OF THEM, LET US KNOW. IT WILL BENEFIT OTHERS.

[Ed. P.H.]

GREETINGS!

People's Health is something different from individual health. If every person's health is his sole concern, it is then his job to see to it. If he fails, he suffers. And this suffering will be confined to him if he lives alone. But man lives in communities. His wrongful living affects his neighbour. His ill-health jeopardises others. So community health becomes a different problem, a bigger problem, a more difficult problem.

A community may be the sum total of its individuals. But the individual's effort alone will not solve a community problem. People's health needs the devoted service of a selfless band of workers. It is their work that produces results which everyone enjoys. Be he the highest or the humblest, be he paid or honorary, be he an all-rounder or a narrow expert, it is his labour that forms the groundwork. No journal devoted to the cause of people's health can forget the foundation on which the edifice is to be erected. It is with the greatest pleasure therefore that we offer these pages to the vast and varied band of health workers.

It is not the Editor's page. It is *your* page. It is not only meant for *you*; but it is to be conducted by *you*. What will appear in these pages is for *your* benefit. What will benefit *you*, you know best. Is it a summary of basic data? It will be collected and presented. Is it hints on field application? It will be gathered and given. Is it the latest information on the subject? It will be culled and published. Are you having any difficult problem? We shall try to help you to solve it. Are you up against a blank wall? We shall help you to bore through or scale it! All

that we ask of you is to tell us freely and fearlessly what you want. It will be our task to find it for you in these pages.

Editors are not omniscient. This editor is the least omniscient. He does not claim a monopoly of knowledge. In offering this page to you he solicits your real co-operation in running it for your mutual benefit. The army of health workers is a big one. Most of you must have had wide experience. What one worker finds good in one situation may be of equal or more value in other places. Where one is stumped with a problem, another may have solved it. It is this experience and practical knowledge that we desire to tap. Let everyone learn from every other one. Let these pages be the medium for this exchange. We would be glad therefore to hear of your achievements also.

Our domain, is health. It is not politics, it is not religion, it is not communalism. We are not anti-government, nor are we blindly pro-government. We shall not stray beyond our sphere. But within our subject, we shall have no inhibitions. Official, administrative or political aspects may be sometimes forbidden regions for us. But in the technical and practical side of our work

Note.—Although this section is addressed primarily to Health Workers who are usually trained for the profession, the 'common-man' would be profited by perusing it.

(Ed. P. H.)

we shall have all the freedom to give and take. It is in this spirit that these columns are offered to you. We have every hope and confidence that you will respond.

Being the first feast, we do not know your tastes. We therefore present a dish or two of our choice to begin with. We hope you will find it palatable and worthy of consumption—in these famine days!

What is this Preventive Medicine business? We hear so much about it. Everybody boosts its importance. Even our doctors are asked to be "preventive" rather than "curative". What is it that is to be prevented? The obvious answer is illness. But this one word does not tell us much. What are the various illnesses? Which of them can be prevented?

There was once a doctor who apparently was not kept busy enough by the public. He spent his spare time exploring the entire field of medicine. The result was a list of all the kinds of diseases that man can and has been known to suffer from. The total came to the staggering figure of 1682.

Then he tried to group them according to the cause of each illness. He had two groups, one in which the cause of the illness came from outside the body, and the other in which the cause arose from within the body. They were respectively named Exogenous and

Endogenous. Of course, being a doctor he would not betray the ignorance of the profession. So whenever he could not find a specific cause for an illness, he put it down in the Endogenous group.

The next thing he did was to further analyse the exogenous causes about which something was known. He found that some were physical in nature like injury or electrocution, some chemical like poisons, and a good number were animate agencies like insects, worms and micro-organisms. Assigning all the 1682 illnesses to the various groups, he found that 65 per cent or about 1100 illnesses were caused by known external agencies. It was only in about 500 of them, that the cause, being unknown, was presumed to arise from within the body. Of the 1100 illnesses which come to us from outside, about two-thirds were due to animate agencies, and only one-third to inanimate, that is, pure physical or chemical agencies. These inanimate agencies are well known to most people. They are not of frequent occurrence. The animate agencies on the other hand are not easily seen or recognized. They are almost ubiquitous. No region of the world is free from them. No man can escape one or the other of them. Our friend therefore went a step further and made another list. Here it is:

ANIMATE AGENTS OF HUMAN DISEASE.

HISTORICAL CONCEPTS OF DISEASE

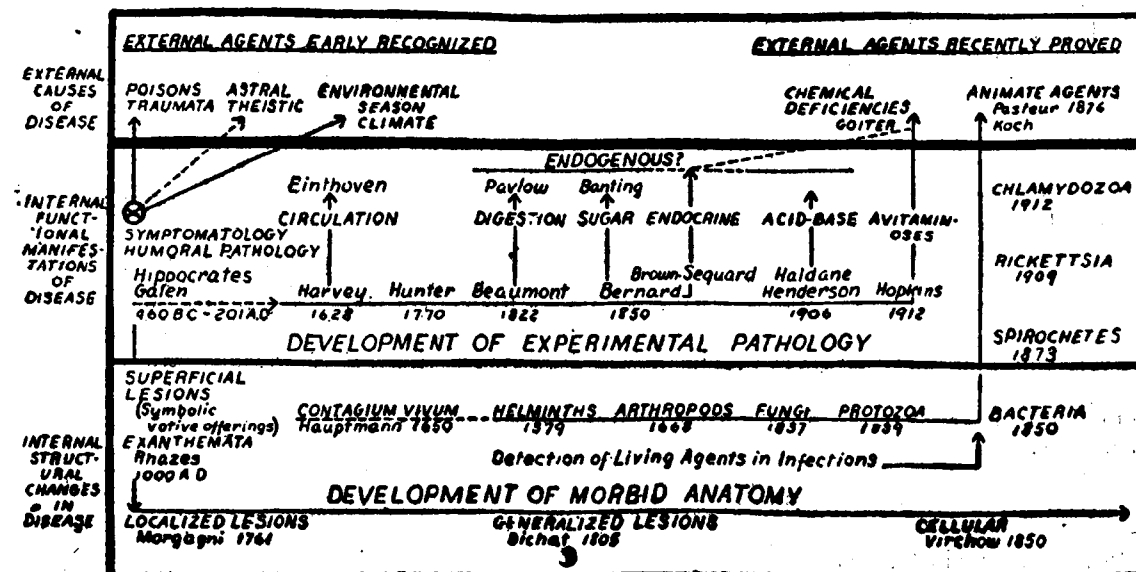


Diagram 1.—Historical Development of Pathology.

Preventive Medicine now is in the hands of doctors—doctors who have deviated from their traditional field of cure. These preventive doctors almost ignore those illnesses caused by external inanimate agents as not coming within their purview. They concern themselves with the task of preventing illnesses caused by animate agents only. Thank God, they drew the line there! What they have undertaken is a Herculean task. Fancy trying to know all about 469 living agents, 742 disease processes, and then devising ways and means of avoiding them!

If any cynic or unbeliever belittles Preventive Medicine, you know what to tell him!

When we look at the different groups of animate agents of human disease, we find that over 300 of the 469 are too small to be seen by the naked eye. Cannot these minute micro-organisms just fly about in the air and attack all and sundry wholesale? Can the air we breathe, with which we are ever in contact, and which we cannot do without, be the medium of most of our illnesses? It is a serious question for which we must know the answer.

'Air and Disease' has been a fascinating subject of study. It has an interesting history. Centuries ago, man noticed diseases prevailing, wherever there was bad smell. 'Foul air' was put down as the cause of disease. The word Malaria arose out of this. A disease caused by 'Mal Air'. The notion persists even to this day in some quarters where all sorts of troubles are attributed to sewer air. This gave place to the theory of 'contagium virum'. Illness is due to some living or vital emanations from the sick. This incriminated the sick and the air alike. Sick persons were sent far away to 'Pest-houses'. Even the air breathed by them must be nowhere near. With the advent of bacteriology, it was imagined that most of the micro-organisms—especially those which affected the respiratory organs—might thus be disseminated far and wide through air. 'Pest-houses' continued to be 'pest-houses' shunned by every one. 'Air-borne Infection' was dreaded by all.

In the last year of the last century came a rebel by name Flugge who went deeper into this question. He proved that those suffer-

ing from respiratory diseases did not throw out the organisms naked in the air. On the other hand, the organisms came out with an envelope of the nasopharyngeal secretions. And these secretions came out in 'Droplets'. So 'Aerial Infection' became 'Droplet Infection'. Flugge further showed that these droplets do not reach beyond four feet from the source. This caused a revolution in prevention. 'Pest-houses' disappeared. Infectious diseases came to be treated in normal hospitals.

Ten years back came Wells and Wells and upset this. They found that some infection travelled beyond 4 feet in air. These they proved to be conveyed in a minuter form than 'droplets'. The name given by them to these particles was 'Nuclei'.

From 'foul air' to 'contagium vivum' thereon to 'droplet infection' and now to 'nuclei infection'! What is the present position in the midst of this confusion? Let us state known facts and draw conclusions.

The fauna and flora on land and sea contribute a heavy load of micro-organisms to the air. These organisms are conveyed vertically as well as laterally by winds to pretty long distances. Organisms are founded in enormous numbers near the surface of the earth. The number lessens, as we ascend in the atmosphere. Up to a height of one mile, they are found in appreciable numbers. Higher up, they decrease more rapidly. But a few are to be found in the stratosphere also. Laterally, terrestrial organisms are found in sea air 180 miles off the coast; marine organisms are found in land air 30 miles inside coastlines. With such profusion of supply and movement, the air gets heavily loaded with micro-organisms. If we live in such 'lively' envelope, we may easily have a host of diseases. There is however one saving feature; and that is the first hard fact we must note. Nowhere in the atmosphere has any pathogenic micro-organism ever been found.

Inference—Fresh Air can never infect. All infections through air are 'intramural', that is, they occur indoors only.

But lots of indoor infection must get in to the fresh air outside, wafted by winds.

What happens to all those organisms in fresh air? What are the purifying agencies of nature? Many; the important ones being dessication, dilution, heat, and ultra violet radiation. These are sufficient to keep fresh air free from pathogenic germs. But for this provision of nature, disease would have devastated the world long ago.

If infection through air can occur only indoors, wherefrom does it come? The diseases that can get through air are practically all inhalation diseases. The infection can be given to the indoor air by a man or a domestic animal suffering from the disease or having the organism in his or its throat. Now, of all the human respiratory diseases, there is not a single disease which affects any domestic animal. "Wool-sorters" diseases may be considered an exception; but it is so unusual that the exception proves the rule. The second fact to note therefore is that indoor air infections come only from men.

Inference—Man's worst enemy is man!

* * *

The one thing that man never ceases to do till death is to breathe. And he breathes air all the time. The germs are present in the respiratory regions. Lots of them must get into the air with every breath. Yet, examination of ordinary expired air shows it to be practically sterile. The third fact therefore is that air is not generally infected by the act of breathing.

Inference—Man is not an enemy to man so long as he just breathes in the vicinity. Even a sick patient is a safe neighbour so long as he is quietly breathing. Any congregation where the people sit quiet all the time cannot infect the air.

* * *

How then does man infect indoor air? It must obviously be by acts other than breathing in which the respiratory organs or passages play a part. They are talking, laughing, coughing and sneezing. The fourth fact, we must know, is whether all these four acts are infective and in equal measure. They are all infective but not to the same extent. Talking and laughing bring out large-sided infective particles—"droplets"—and that too very few. The number depends on the letter pronounced;

hard consonants giving the most and vowels the least. The number also depends on the loudness of the talk or the laugh. In any case, the number is only a few tens of droplets. Coughing brings out droplets in greater numbers; a few hundreds at a time. Sneezing however is the worst. Talk or laugh is but a drizzle; cough is a shower; sneeze is a veritable storm.

A sneeze is a violent expiration. A large volume of air is suddenly expelled with force. In this process, the secretions of the mouth are also thrown out in larger quantity. In the three other acts, they come out in bigger particles, namely, droplets. In sneezing, the secretion is atomized into the air. It is thrown out as extremely fine particles forming a faint mist in the atmosphere. Flash photography of sneezes shows this misty expulsion very well. And the number of such minute particles may well be 100,000 in a violent sneeze.

Inference 1.—Healthy persons talk and laugh. Sick persons cough and sneeze. So, the sick are more dangerous than the healthy.

Inference 2.—Talk and laugh give fewer organisms to the air. A sick person is not so harmful when he talks or laughs as when he coughs or sneezes.

Inference 3.—Sick or healthy, talking and laughing is much more frequent and normal than coughing or sneezing. So, the air gets infection in small doses more often and in large doses less often.

Inference 4.—You may be pretty near when a person talks or laughs. When he coughs, keep off further. If he sneezes—run away from him forthwith! Unless, of course, your kind friend coughs or sneezes not in god-given free air, but into his—own hanky.

* * *

Now, what is the fate of these particles which are thrown out into the air of the rooms by the occupants? One of three things can happen. The particles may be shot straight into the face of another person. He just breathes it in straight. This is direct 'droplet infection'. The particles may float about in the air and be breathed in by any casual person. Even those not nearby may get them. This may be termed



Sneeze from subject with a bad cold. Note masses of viscid mucus, which is less effectively "atomized" than saliva. The eyes are characteristically closed. Exposure 1/30,000 second.*

(With due acknowledgment to the American Journal of Public Health, Vol. 31, No. 4, page 322).



A typical violent sneeze. The close approximation of the teeth results in effective "atomization" of the saliva. Many droplet images are larger than actual droplet size. Exposure 1/30,000 second.

(With due acknowledgment to the American Journal of Public Health, Vol. 31, No. 4, page 322.)

"Nuclei Infection". Some particles however may settle down on the floor, furniture, or fomites. There they may become dust or get mixed with dust already present on those surfaces. The dust may be raised up into the air and be breathed by any person in the room. Or, the dust may be caught on the hand and carried to the mouth. This constitutes "Dust Infection".

Which of the three paths the infection takes, in what dose it comes, and with what virulence depends on several factors. The size of the particles, their number at each ejection, the force with which they are shot out, the atmospheric conditions, the work done in the room all play a part. Each one affects the route, the dose and the viability in some way. Here are a few interesting data.

1. The size of a single organism like the pus producing coccus is 1 micron ($=1/1000$ th of a millimeter). That of a shot out, the atmospheric conditions, the Nucleus is about 5 microns, a small droplet about 50 microns and a large droplet about 1000 microns or one millimeter.

2. Particles less than 100 microns tend to remain suspended in air. Those from 100 to 200 microns sometimes float and sometimes fall. Those above 200 microns cannot float; they fall.

3. The larger the size, the quicker the fall. In still air, one micron particle will fall 1 c.m. in 5 minutes; a 50 micron droplet will fall 225 c.m. in the same time.

4. Deposition on the floor takes place at a geometrically decreasing rate. Only one-sixth of the total particles remain suspended for as long as six hours.

5. Droplets become much smaller after ejection. In still air a droplet, 150 microns in size is completely evaporated in one-fourth of a second. Two-thirds of sneezed particles are less than this size. So within a fraction of a second, they evaporate down to nuclei size and remain suspended.

6. If the evaporation is too quick and too thorough, the organisms remain potent in a dry state. If it is slower and less complete, the organisms are killed. The rate of evaporation depends on humidity.

7. A sneeze ejects particles with a velocity of about 150 feet per second. Theoretically, a particle 1 m.m. in size ejected at this velocity will reach the floor 15 feet away. The smaller the particle, the less its kinetic

energy, and the shorter the distance it will go.

8. To support a particle 10 microns in size, an air current with an upward velocity of 1 foot per minute is required.

9. In breathing in, the larger particles are caught in the nose and throat; the smaller ones reach the alveoli. Droplets cause upper respiratory infection; nuclei cause lung infection.

10. Dust is raised usually by sweeping, bedmaking, or other human activity. Dust raised thus has a very rapid settling rate. Few dust particles will be inhaled; fewer still will reach the lungs.

11. Dust particles which remain suspended in air are too small—smaller than a bacterium. Bacteria cannot be attached to such particles.

12. The number of dust particles in air is enormously in excess of the number of micro-organisms. The ratio is often several thousands to one.

Now, what is it that we learn from all these interesting facts?

It is clear that the more the occupants in a room, the greater the bacterial load of the air. In other words, overcrowding spreads diseases. In disease spread, overcrowding is determined by the space factor. The less the space, the closer will the occupants be. The closer they are, the greater the risk of mutual infection. It is to minimise this risk that floor space is fixed for each occupant in buildings.

The chances of infection depend also on the factor of time. If the occupants remain in a room long, naturally spread is more probable. The quantity of infection acquired may be also greater. People spend the longest time in their own residences, less time in schools and factories and least in theatres. To pay the maximum dividend, abatement of overcrowding must first be done in residences, then in schools and factories, and lastly in theatres.

Fresh air and sunshine are self-cleansing. They seldom contain disease organisms. They are popularly believed to be the enemies of Tuberculosis. Our labour classes are housed no better in rural areas than in urban areas. Yet, the rural worker suffers less from respiratory disease. For, he spends a good part of the day and most nights in the open air. His urban counterpart remains cooped up in his den. He has

few open spaces at his disposal in towns and cities. If you can't house him better, give him at least plenty of attractive parks and playgrounds. These repay more than the outlay on them by the lessening of respiratory diseases and better health and work.

It is all very well to say "Abate overcrowding; build better houses; provide parks and playgrounds". It is so difficult to get these things, so much or so well as Russia. Is there any other remedy? Can we prevent this sort of infection, by any other means? Can the vitiated air be purified by some easy method? Yes; there is a very simple way of preventing infection getting into the air of occupied rooms. There is also a way of purifying infected air which is easy.

During the Battle of Britain, people had to crowd for long hours in underground shelters. Hospitals had to be improvised and were often overcrowded. Public conveyances were scarce, and the few that plied ran overfull all the time. The result was that respiratory infectious spread rapidly. The Ministry of Health started a propaganda drive for respiratory hygiene. They asked only one thing from the people—and that is to hold a kerchief to the nose and mouth while coughing or sneezing. All particles shot out were caught in the kerchief. The air remained unpolluted. The people responded to the call. Coughing and sneezing into the kerchief became almost an universal habit. Result—material reduction of respiratory disease.

The oldest and the simplest method of keeping the intramural air pure is ventilation. Ventilation as we now understand it serves other essential purposes. It has also become more artificial, mechanical, and hence, complicated. But the almost primitive method that we know longest is the open window. This is quite enough to purify the air of bacteria. Only, there must be enough of windows and they must remain open.

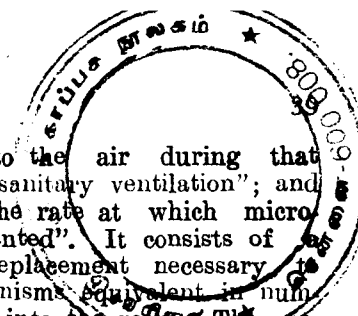
The bacterial load of a room depends on the rate at which organisms are added to the air and the rate at which they are removed. Ventilation consists in removing bad air and replacing it by fresh air. During a given time, as much bad air must be withdrawn as will remove all the micro-

organisms added to the air during that period. This is "sanitary ventilation"; and this term means the rate at which micro-organisms are "vented". It consists of proportional air-replacement necessary to remove micro-organisms equivalent in number to the output into the room. The replacements are termed "turnovers". Sanitary ventilation is expressed in "turnovers per hour".

Wells has examined this deeply. If windows are closed and the interchange of air is only by seepage through cracks and crevices, then the ventilation is less than 10 turnovers per hour. This is obviously "very bad". Open the windows slightly now and then; this increases the ventilation to 25 turnovers per hour. This too must be regarded as 'poor'. Keep the windows open in mild weather; ventilation is improved from 25 to 100 turnovers per hour. This may be deemed 'fair'. It is only when the turnovers are more than 100 and upto 500 per hour, that the ventilation can be said to be 'good'. This can be achieved only by a profusion of windows on opposite sides to allow free perfilation. In fact, it might be said that the 'best' ventilation is not to have any walls at all! In such a place, respiratory infection cannot thrive.

Overcrowding is bad. Ventilation is a remedy. Does this mean that we can fight overcrowding by ventilation? Will the evils of overcrowding be offset fully by ventilation? Is it enough if we attend to one of the two? Can we get the desired result by abatement of overcrowding alone or by improving ventilation only? No. Ventilation is good and useful. It decreases the risk of disease from overcrowding. But it acts better in less crowded places. It has less effect in overcrowded places. Suppose, we have two rooms A. & B. A is occupied by a large number of persons—very overcrowded. B is occupied by a less number—less overcrowded. Let us improve the ventilation of both the rooms to the same extent—say fourfold. The result will be different in the two rooms. In room A, the reduction in the bacterial load will be about one-fifth. In room B, which is less overcrowded, the bacterial load will be cut down by nearly two-thirds!

So, we must not only improve the ventilation of our buildings, but also see that no occupied room ever has more persons than is safe.



HOME ENVIRONMENT.

BY
"HOUSEWIFE."

When the editor approached me to contribute an article on home environment from a housewife's point of view, I accepted the invitation without any hesitation whatsoever. I did so, not because I felt competent to do justice to the subject, but because I felt that I had a lot of little, little things to say on it.

First, I should protest against architects and engineers designing our homes without understanding in the least the housewife's requirements. As a rule, the housewife is rarely consulted at the designing stage of the dwelling. Even if by accident the housewife finds unsuitable work in progress, her suggestions are brushed aside, as unworthy of any consideration! I understand, that women are getting trained as architects in the western countries. I wish some of our educated women in India also get themselves trained as architects and engineers. They will be then in a position to understand and sympathise with the housewife's difficulties in running the home and maintaining it in a healthy environment.

I should like to illustrate my point by giving a few instances of unsuitable design which one comes across in many a home—even in bungalows constructed in spacious compounds at a heavy cost.

THE KITCHEN.—There is a growing tendency of modern housewives neglecting the kitchen. The bread-winner of the family sweats hard to earn money for the maintenance of the family. More often than not, he has to take a hurried meal. And what is the quality of food which is served to him. The housewife does not know! It is sad. This is by the way.

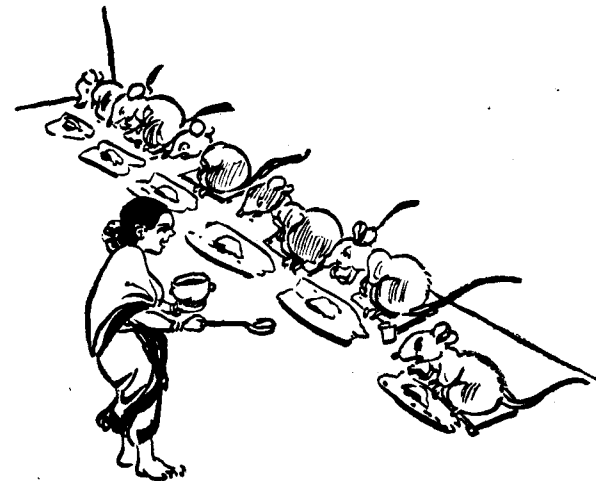
There are fortunately many housewives among us even now, who make it their sacred duty to attend to the kitchen. When one enters a kitchen one finds first, the location of the fire place unsuitable. The light—sunlight or electric light—does not play on it at a correct angle or from the correct direction. In some cases, the kitchen is so dark in broad day-

light that one cannot see whether cockroaches are roasted with the vegetables or lizards are ground down with the chutney!

In some cases, chimneys are provided. It proves in practice, to be an ornament! The smoke soon covers the place. A down-draught through the chimney, throws back the smoke from the fireplace and with it a lot of soot which had been deposited on the walls and the hood of the chimney. Hence, soot also forms part of the food!

SMOKE-FREE: ACCIDENT-PROOF OVENS.—Recently, we read in the Press, that a mother and child were both burnt to death by the kitchen fire. We have also read of such tragic reports in the past. No one appears to have bestowed even a minute's thought over such tragic accidents. These are avoidable; but there has not been any flutter anywhere. Even the Lady Minister of Health, about whom we, women, were so enthusiastic as though each one of us had been appointed to that exalted office, does not appear to have been moved by such avoidable tragedies!

Our kitchen fire is primitive. The flowing saris and the flaming fire of faggots do not go together. Something should be done to improve our oven. I read somewhere that the researches by the coal industry and manufacture had resulted in the production of new smoke-



reducing fires and cookers, to suit every type of house. They were exhibited at London some-time back. It was claimed that all of them would burn all night at a reduced consumption of half a pound of coal per hour. It seems boilers also could be attached to them to supply hot water. I wonder why attempts have not been made in our country under official or private direction to produce smokeless and safe ovens, to suit every purse and every dwelling. If our housing schemes should prove a success, a smoke-free and safe oven should be installed, in every kitchen. In fact, it should form part of the fittings of the house, like doors and windows. It is time that the State authorities initiate researches in the matter. Why not appoint a committee of experts if there are any, to go into the question?

STORES.—The designer does not understand that apart from the regular store-room, small quantities of provision have to be stored in the kitchen itself. No space is provided for it. Even if provision had been made, no arrangement is made to make it rat-proof. In these days of rationing, the housewife cannot afford to feed the rats and on the top of it, run the risk of plague infection, should one live in an area liable to epidemics of plague.



PEOPLE'S HEALTH.

41

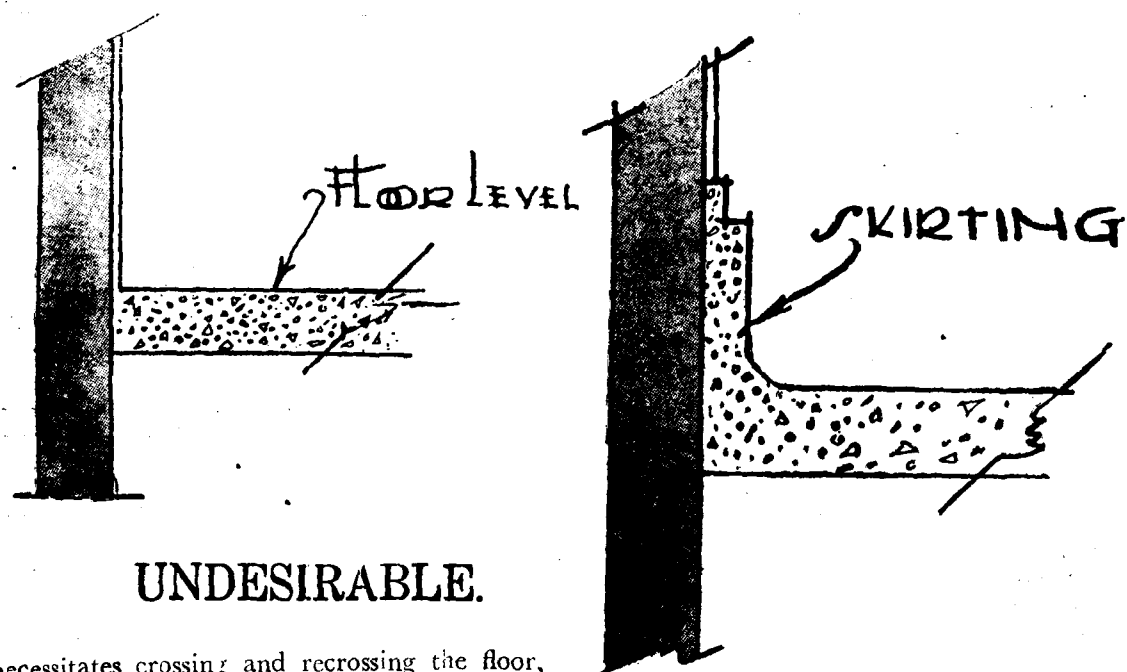
MEAT-SAFE.—When the food is cooked and kept aside before serving, one has to keep a vigil over it, lest cats come and have the first feed. One has to be specially vigilant if milk is kept. In these days when milk is scarce, which housewife can afford to allow the luxury of cats feeding on it, denying the child its limited quota?

There is again the problem of the ants infesting milk and milk-products. If architects and engineers utilise their ingenuity, they can make suitable arrangements for keeping the food in. They can even provide for keeping certain preparations of food hot.

THE FLOOR.—Take the floor of the kitchen. These days cement is largely used. Cement floors are clean and can be readily washed and cleansed. But, woe to the person who has to stand long or walk upon it to and fro. The person soon develops sores between the toes. If the housewife happens to be the cook herself, she has to put up with the suffering and shed a drop of tear, as the last of her domestic duties! Which architect or engineer realises this difficulty and specifies suitable flooring for the kitchen complying with all the hygienic requirements and at the same time avoiding the risk of developing sores between the toes?

The difficulty of keeping the junction between the floor and the wall, is real. The right angled junction does not help sweeping and washing clean. When washed with water and swept with the broom, the washed water splashes against the walls. The disfigurement thus caused does not add to hygienic condition of the kitchen. This can be easily avoided by providing rounded corners and a skirting, say 9 inches high. Such a provision would also add to the elegance of the kitchen. When properly done, it adds to the beauty of living rooms as well. It helps to maintain the place free from dirt.

THE SINK.—The location of the sink—I mean the Indian sink but not the western type—is another unhappy feature. Its location



UNDESIRABLE.

necessitates crossing and recrossing the floor, every time one has to wash a vessel or put by any utensil for being washed. Walking to and fro with wet feet leaves a dirty trail across the floor.

With the location of the sink, goes the position of the water-tap. This applies to the few fortunate of houses where water is laid on to the kitchen. Kitchen is a place where plenty of water is used in Indian homes. The drainage of the sink does not take into account that a lot of floating matter is usually washed out. In course of time, the drain gets blocked with the result that dirty water backs up. Even in cases where the builders have bestowed thoughts on the point and provided a grating, there is no place for depositing what is cleared from the sink! The side of the sink becomes a receptacle for it. This encourages the breeding of flies in the kitchen itself. Even elementary books on hygiene impress on us the dangers of fly-borne infection of bowel complaints. If the kitchen is found to be unhygienic, the housewife cannot be blamed. The lack of facilities for maintaining it properly is responsible. Which designer of dwellings has the understanding to foresee these details and provide for them properly? These details though small in themselves, have a far-reaching influence on home environment.

DRAINAGE.—While on the subject of drainage, I should mention that the Municipal authorities lay down a condition that the drainage

water should be disposed within the premises, in the case of buildings which are not served by Municipal drains. They are not concerned with the open land available for the purpose; nor with the nature of the soil; nor with the sub-soil water level! The result is the soil becomes sick! It does not allow the water to soak through.

Fly-breeding and mosquito-breeding come in train. It should be remembered at the same time that in propaganda conducted by our health experts for anti-malarial measures, they insist upon even a cocoanut-shell being emptied of water lest it should become the source of breeding mosquitoes! It is verily straining a gnat and swallowing a camel!

Before I conclude my observations on the kitchen, I should like to make a general remark that the designer of the home relegates the kitchen to a place which is not required for any other useful purpose. A kitchen should have at least two sides of it, to the external air. It is desirable that there should be verandahs on these sides.

HARD LINES.—Let not my sisters who belong to the working classes run away with the

impression that I am not alive to their difficulties. Even in Government sponsored housing schemes for them, a rear verandah is usually set apart as 'kitchen'. It is not infrequent that in a single-roomed tenement, the living room itself serves as a kitchen, sleeping place and what not! It is said that people in authority talk of raising the 'living standard' and yet grudge the minimum floor-space required to satisfy the minimum requirement of health and sanitation. I am not, however, developing here a theme on housing generally. Let me now turn to another aspect of home environment.

THE COOK—HOW DISEASES COULD BE DISSEMINATED BY IGNORANCE?—The housewife has a responsibility of seeing that food is not only prepared under hygienic conditions, but also served under similar conditions. In families where cooks are employed, the housewife has to take care to see at every turn how the cook does his or her job. This is one profession which has a great and direct influence on the health of the people and yet it is one for which no qualification is required. They are on par with the Executive Councillors and the Ministers of the State who guide the destinies of the people! And what is the result?

FOOD POISONING.—The employment of amateurs often proves disastrous to the entire family, as experience has shown. Food poisoning through their ignorance is not rare. We have heard of a whole marriage party wiped off by food poisoning. It is through the ignorance of the cooks that such dire consequences ensue. They do not understand the importance of checking whether tinning on a copper "*deksha*" or a brass "*adukku*" is in tact. Patches of exposed surface may prove poisonous. A duty is therefore cast on the house-wife to check this herself.

UNHYGIENIC HABITS AND CONTAMINATION OF FOOD.—There are cases of neglect on what appears to be a trivial. They keep the food exposed allowing myriads of flies to squat on them; conservancy latrines and flies ill go together.

Look at their nails, with dark deposits of dirt. They have no idea that millions of microbes which he or she could harbour at the tips of their fingers. They dip the finger ends readily into a tumbler of hot water which is brought for you. Just enquire whether water is too hot for drinking and watch what is being done automatically. Ask

him to bring a tumbler of water and see how he brings it. His thumb would be invariably dipped into it. Have you watched the way in which he holds the "*Kooja*" of water and pours the water into a tumbler? All the four fingers are dipped in it.

We invariably store drinking water in an earthen pot. Of course, an enlightened housewife takes care to see that the municipal water is boiled and cooled before storing it in the mud pot. Let me digress here for a moment.

Municipalities should provide wholesome drinking water for the people. It should be so "wholesome" as to encourage the people to drink it as drawn from the tap, stright way with impunity. If the water is not wholesome, as the lawyers tell us, the Municipality is liable. In how many cases, the Municipality is liable? In how many cases do our local authorities realise their legal responsibilities? How many rate-payers demand the obligation on the authorities being discharged? This is by the way.

Have you observed the cook dipping his or her hand right upto the wrist while taking water from the pot. We should improve the method of taking drinking water from the pot. Those who can afford it can provide a tap to the receptacle in which drinking water is kept. It is expensive, no doubt, but a small vessel with a handle made somewhat on the lines of our laddle could be provided. But care should be taken that it is not kept on the floor itself. It should always be kept on the lid with which the pot is covered. Or it should be suspended by a hook near the water-pot.





One of the most disgusting of sights is the cook or for that matter any person sneezing and covering the food with a spray of droplets. What a dangerous shower bath indeed! I may here mention that some persons while talking, cover the faces of their listeners, with sharp shower baths varying with the vehemence of the talk. If they know the dangerous consequence of exposure to such shower-baths, they would show some consideration to their listeners.

The aroma of the food under preparation permeates the whole house. At times, it is pleasant and at other times highly offensive. It all depends upon what is cooked and how it is cooked. This is definitely due to defective design of the dwelling. Pleasant or unpleasant, the fumes from the kitchen should not be allowed to permeate the living portions of the house. It is desirable to provide a corridor between the kitchen and the main block which will ensure a thorough and through ventilation. While talking of the aroma of the food under preparation, one should not overlook what some cooks do while cooking. They take a sample of the food in a laddle and smell it! Their face would indicate

whether they are satisfied with the food they have prepared or not. Needless to say that this is a highly offensive and dangerous practice. The housewife has to be watchful and pull up the offender.

Fortunately, it is not common among the high-class cooks to lick the food with the tip of the tongue while cooking. This practice wherever it exists, cannot be too strongly condemned.

Even in well ventilated kitchens, the warmth of a kitchen fire induces sweating. In ill-ventilated kitchens, the cook is practically in a bath of sweat all the time. He usually keeps a small towel on his shoulder with which he swabs the sweat. With the same towels, he removes the vessels from the fire, not infrequently, an end of it dipping into the sauce inside the vessel! The same towel is often utilized for blowing his nose in. Any one trained in bacteriology, would find the towel a veritable mine for research. Such research may result in some new organisms being discovered which may perhaps explain the origin of certain diseases which are at present unknown. The towel would resist water and fire with equal impartiality! The housewife's lot is unenviable. If you go on pulling up the cook for everything he does, which shocks one's sense of hygiene, one fine morning he will walk out, leaving the housewife and her family in the lurch. If the housewife happens to be an



educated and modern one, absolutely innocent of the intricacies of the kitchen and its affairs, she would find herself miserable with the desertion of the cook.

And sometimes we get cooks who snuff. Involuntarily, 'the pleasure thence that flows' either falls into the food prepared or is blown into his inevitable all-purpose-towel!

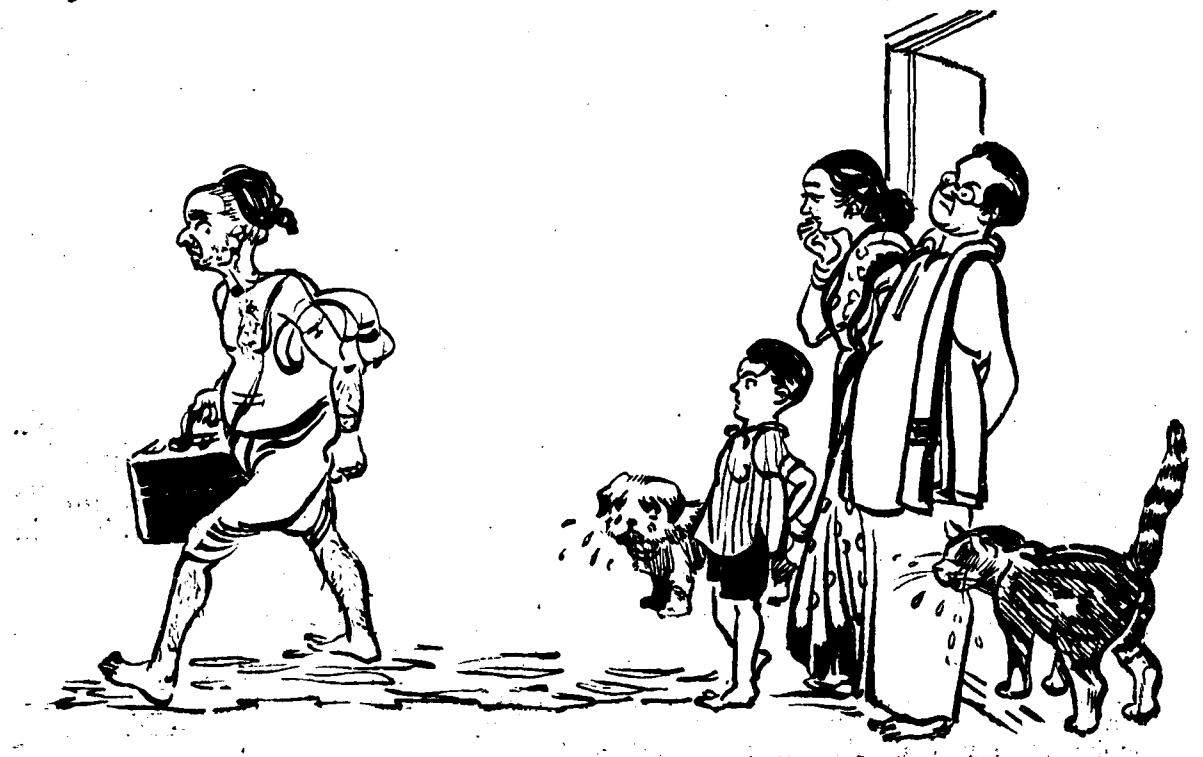
What is the good of a housewife here, and a housewife there, attempting to inculcate ideas of hygiene in these cooks. When the cook

[We shall watch the reaction of housewives who take an interest in the subject.
—Ed. P.H.]

finds one housewife particular about his reformation so far as cleanliness goes, he walks out of the house in the confidence that he would not be a starving unemployed. There are desperate housewives who are always on the lookout for a good, bad or indifferent cook in their utter helplessness. Thus, the cooks can afford to be defiant and refuse to be reformed. In these state of affairs, what can a housewife who has developed a sense of hygiene, do? Every housewife should set up a standard of kitchen sanitation and insist upon the cooks complying with it. Then there is a chance of the cooks getting themselves reformed for their own benefit and for the benefit of their employers.

After having said so much on our cooks and the way in which they tyrannise the helpless housewives who are incapable of cooking their food, I am unable to proceed further with the scheme which I had been attempting to develop.

If the editor approves, and if the readers are inclined to read more about home environment, as I see it, I shall be only too glad to write more on the subject.



This section is open to readers for their frank, free and fearless expression of views on all aspects of people's health.

Type-written letters facilitate work.

Rationing of paper restricts space. Brevity is the soul of wit.

Please remember that "People's Health" is above communal, party or personal politics. —(Ed. P.H.)

GOVERNMENT SERVANTS AND FREEDOM OF EXPRESSION.

A Health worker writes:—

From the brochure which explains the aims and objects of "People's Health," it is obvious that your magazine, which is intended *inter alia* to convey technical information to technical men and to the public in simple language should have the benefit of contributions from technical men giving such information in an authoritative manner. As the bulk of our technical experts are found in government service, the question arises how far their knowledge and experience will be available to the public through magazines of this kind.

It is well known that every public servant is governed by the various provisions of the Government Servants' Conduct Rules calculated to curb his freedom in the interests of official uniformity and prestige. Most government servants are saddled with a great deal of routine work in the performance of which they are not likely to find either the time or the incentive to contribute to journals of this kind. But there is bound to be a minority at least who have the zeal as well as the equipment to note points of interest and broadcast their observations for the benefit of the public at large. It is unfortunate that the traditions of our bureaucratic service so far, have been uncongenial for the expression of free and independent opinion by promising subordinates. They generally experience a kind of suppression from which very few have recovered. Is it not time, especially with the inauguration of popular governments throughout the country, that these discredited conventions are publicly given the go-by so that government servants employed in various constructive spheres of work may make the results of their experience available to the public through magazines of this kind?

Among the technical men themselves, there is a feeling that they should not take part in public controversies. This is no doubt a

salutary principle; but without overstepping the limits of fair comment and in the furtherance of their desire to propagate new and vital ideas, it should be possible for government servants also to assist in the formation of an enlightened public opinion. Can you not therefore expect State to get out of the rut, and view this matter in its proper perspective, ultimately in the interest of the people at large? I consider this such an important point that I hope you will be able to persuade the various Provincial Governments as well as the Central Government to accord the necessary permission to these officials to use your journal for one of the main purposes you have in view.

[The writer is an obvious enthusiast. It is not in public interest that enthusiasm in workers should be suppressed.]

We have already addressed the Provincial and Central Governments on the subject. We are glad to inform our readers that we have received orders from the Government of Bihar permitting the officers employed on public health and public health engineering work, to write articles to "People's Health". We have also heard from the Government of Bombay that they have no objection to the officers of the Public Health Department sending their articles on public health matters for publication in "People's Health".

Let us hope that is only a question of time before other popular governments also fall in line with this desirable policy. —Ed. P.H.]

THE HOUSING PROBLEM.

Mr. S. K. Sadagopa Mudaliar, M.L.C., writes:

Everyone realises how acute the housing problem is in the country. The acuteness of it is felt by everybody, including the Ministers of the State. The plight of even government servants when transferred from one station to another, is deplorable. I have heard harrowing tales of their difficulties. This is the case with even high paid officials. The subordinates serving under the State suffer seriously. The prevailing high rent and the want of housing accommodation, make them pack themselves like sardines in the limited space available. I need not say more on their difficulties.

The object of my writing this to you is only to call attention to the methods which should be adopted in solving this problem. Want of materials and want of money are the usual explanations given for the failure to tackle it.

My first suggestion is that this is precisely the time when the government should plan and plan well. The condition in every city or town should be studied by competent men and the possibilities of developing housing schemes in suitable localities should be examined. In what direction, the town should be extended or in the alternative, how and where new towns altogether should be built, should be thought out. If attention is paid now to these preliminaries and a well-thought-out plan is prepared, the execution could be taken up when materials become available and the finance is found for it. Every available agency should be utilized for executing these schemes *as quickly as possible*. For instance, co-operative building societies could be used for the purpose. Liberal advances at a reasonably low rate of interest, should be given to them. The period within which the loan is to be returned, should be extended. This would lighten the burden of repayment of loan and would also encourage thrift and enable the poor to think of owning a home of their own. The usual objection that public money should not be locked up in a particular scheme for long periods should be reconsidered so far as the housing and other schemes for providing the amenities of life are concerned. If approved schemes are ready, the State could sponsor some of them; private capitalists may be encouraged to invest money on such schemes. Insurance companies which have large accumulated funds may also be induced to do likewise.

We seem to follow the policy of living from hand to mouth. Co-ordinated schemes are not prepared. Every existing open space is thoughtlessly utilized for building houses upon. This is wrong from any point of view. Every city should have a 'Master-plan.' These plans cannot be prepared independently either by an architect or by a town-planner or a medical expert on health or by an engineering-expert. All of them should develop the spirit of working together. This attitude is sadly wanting. The days of amateurs in administration and in technical departments should go at once. My suggestion is that the Ministry should be advised on such large problems and policies by a committee of experts—I mean real experts. Before launching upon expensive schemes of housing, we should definitely decide what standards we should adopt in providing houses particularly for the poor and the middle classes keeping in mind our national aim of improving 'the standards of living.'

There is one other aspect we all overlook. Even if materials and money are available, for going forward with our housing schemes, there is the difficulty of labour. A fetch-and-carry of to-day becomes a brick-layer the next day! There is no system under which the artisans are trained. There is no system compelling master-masons to take up apprentices and train them in the technique. The result is wastefulness and inefficiency. The Ministry should consider this aspect. Every individual Minister should not act as though he is working in a separate compartment. I suggest that the Ministers for Local Administration, Health, Public works, Labour and Co-operation should sit together and discuss the various aspects with official and non-official experts and chalk out a long-range and a short-term policy and *subject them to public scrutiny before sanction*. Finance is also involved. It would seem desirable that housing should be considered a question for Cabinet decision. As regards the supply of materials, the Government should follow a definite policy. It is well known that people with influence get the building materials easily to the prejudice of those who are in dire need. It is time that the Ministry chalks out a definite policy on the subject.

[Mr. S. K. Sadagopa Mudaliar has been long associated with Municipal administration both as a Councillor and Chairman of Salem Municipality. We hope the authorities will give due consideration to his suggestions.]

In England, the Ministry has devoted considerable thought and has planned well ahead. Preparation of 'Master-Plans' for their cities has been taken up even during the War. The Ministry there has worked out even details to the point of issuing instructions as to how the sites should be prepared and kept ready for executing housing schemes, when the time comes! It

should be remembered that we are poor; we cannot afford to throw away what little money is available on haphazard schemes or half-baked ones. To spend money is easy, but to spend it wisely is difficult. The people's representatives should realise that they have a responsibility in the matter.

—Ed. P. H.]

PEOPLE'S HEALTH

What does the magazine stand for?

1. "People's Health" will not be concerned with party or personal politics. It will place the health of the people above political, communal, linguistic, religious, territorial and other such considerations.

2. It will aim at guiding, mobilising and stimulating the activities of the Provincial and Central administrations and the people in the war against disease, malnutrition and the root causes of poverty and ignorance. It stands for waging this war to a successful conclusion on the principle of Unlimited Social Liability.

3. It will stand for the improvement of environmental sanitation, including town planning and housing, as the first and most essential step in the progressive promotion of the people's health.

4. It will ceaselessly strive to integrate official and non-official activities for promoting the health of the people.

5. It will convey correct and up-to-date information on all aspects of people's health in non-technical and popular language, for the benefit of the common man and the specialist alike.

6. It will aim at rousing civic conscience and inculcating in the people pride in their village, town or city.

7. It will specialise in the reconstruction and improvement of villages, particularly in the field of sanitation, to ensure the health of the masses.

8. It will demand on behalf of the people the due performance services which should be rendered by the

State in the light of the progress made all over the world in the promotion of the people's health.

9. It will press for a high of the financial and administrative priority for schemes calculated to promote the people's health in any programme of reconstruction.

10. It will try to enlist the enthusiasm of Young India for knowledge relating to health and harmonious growth of all human faculties.

11. It will attempt to educate the house-wife and the mother on home environment and the upbringing of children.

12. It will plead for the provision of healthy surroundings to workers in industrial institutions and also point out the ways in which this could be achieved.

13. It will press for the reorganization of the administrative and professional services so as to achieve a correct and proper utilisation of each service, and with a view to promote co-ordination and teamwork of all the related services.

14. It will fight all forms of quackery, superstition and evil customs.

15. Its supreme aim will be to serve as a clearing house for scientific and up-to-date knowledge pertaining to national health and as an authoritative and fruitful forum for the discussion of all ideas and plans relating to it.

LAW AND PUBLIC HEALTH.

[By giving the extracts of the decisions of Law Courts, it is not our intention to encourage litigation. Our purpose is to focus the attention of the authorities to their legal liability and to bring to the notice of the citizens their rights and duties.

It should be remembered that litigation is an expensive luxury.

—(Ed. P.H.)

LEAD POISONING—LIABILITY OF WATER AUTHORITY.

The defendant Water Board was responsible under a statute to provide and keep in pipes a supply of pure and wholesome water sufficient for domestic use of all the inhabitants of the town. The water supplied by the defendant was soft and liable to absorb lead when passing through a lead pipe, but was otherwise pure and wholesome. The pipe leading from the defendant's main to the consumer's (plaintiff's) premises was an old lead pipe. The plaintiff having consumed the water which was thus contaminated by passing through the old lead pipe became ill and sued the Water Board for damages. It was held that there was no breach of statutory duty as the water supplied in the main was not contaminated; but the Board was made liable upon a failure of duty at common law constituting negligence. The defendant knew that the water supplied was plumbosolvent, that it had poisoned some drinkers and that there was a method of correcting that poison. The court of appeal applied the principle that "any one who without due warning supplies to others for use a thing which to his knowledge is in such a condition as to cause danger not necessarily incident to the use of such a thing is liable for the injury caused to others by reason of his negligent act." It was held that the water authority owed a duty

to the consumers—who were closely and directly affected by its acts—to take reasonable care to supply them with water which was proper in quality or at least to warn them that it was not and that it needed purification: EXTRACTED BY R. V.—*Barnes v. Irwell Valley Water Board*, (1938) All. E.R. 650.

MILK—ADDITION OF FOREIGN SUBSTANCES.

Provision of milk ordinance prohibiting sale of milk which has had the cream line increased by artificial means constructed. (Washington Supreme Court, *Arden Farms Co. v. City of Seattle*, et al. 99, p. 2d, 415; decided February, 17, 1940). The plaintiff sold milk in Seattle containing 5 per cent. butterfat. "In standardizing this milk, the company added homogenized pasteurized cream so that the product was a combination of whole pasteurized milk and homogenized pasteurized cream." Seattle ordinance prohibited the sale of "milk which has had the cream line increased by any artificial means." The city health commissioner directed that its sale be discontinued for the reason that the process by which the product was produced was an artificial one and that, therefore, the cream line was increased by artificial means. The company brought an action to enjoin permanently the city and health commissioner from interfering with the sale of the product.

The trial court decided against the plaintiff, but the supreme court reversed the decree. The appellate Court said that the trial court disregarded the provisions in the ordinance which defined homogenized milk and cream to include milk or cream which has been subjected to the mechanical process of homogenization, and among other things, that if the city council had desired to prevent the deepening of the cream line by the addition of homogenized cream, it should have employed the word "mechanical" instead of "artificial". The view taken by the appellate Court was that the section of the ordinance was intended to prevent the addition of foreign substances to milk to increase its cream line and apparent richness: F. L. McDONALD.—(*Public Health, Reports*, 55, 1229-30, July 5, 1940. From P. H. Engg. Abstrs., Vol. XXI.)

MILK-ADDING INGREDIENTS IN ITSELF. IS IT FRAUD OR DECEIT?

(Kansas Supreme Court; *Czarlonene Products Co. v. Mohler*, Secretary of Agriculture,

et al., 102 p. 2d. 1044; decided June 8, 1940). Plaintiff sought to enjoin the State from enforcing the "filled milk" act which makes it unlawful "to manufacture, sell, keep for sale, or have in possession with intent to sell or exchange, any milk, cream, skim milk, buttermilk, condensed or evaporated milk, or any of the fluid derivatives of any of them to which has been added any fat or oil other than milk fat, either under the name of acid products, or articles or the derivatives thereof, under any fictitious or trade name whatsoever." The plaintiff sold a product made by adding pure, refined cocoanut oil and certain vitamin concentrates to fresh, sweet skimmed milk, and then reducing the mixture by evaporation until it consisted of 20 percent. milk solids other than fats, thoroughly sterilized, and free from bacteria.

One of the trial Court's findings was that there was a serious disagreement among nutrition experts as to whether cocoanut oil was a pure, healthful, and nutritious food. The Supreme Court stated that it was clear the statute had a twofold purpose:

- (1) Preservation of the public health.
- (2) Prevention of fraud and deception of consumers.

The Court took the position that, even if the added ingredient was harmless in itself, the legislature could still prohibit the manufacture and sale of the compound to prevent fraud deception: J. D. RICHETTA.—*Public Health Reports*, 55, 1834-1835 (October 4, 1940). (From *P. H. Engg. Absts.*, Vol. XXI.)

WORKMEN'S COMPENSATION ACT— CONTRACTION OF TYPHOID FEVER. HELD COMPENSABLE.

"Compensation under Workmen's Compensation Act awarded for typhoid fever". (New Jersey Supreme Court: *Bobertz v. Township of Hillside*, 15 A. 2d. 796; decided October 18, 1940).

"A sewer inspector for Hillside Township while making a routine inspection, found one of the sewers clogged and went down a hole to effect a repair. He slipped on the step and his face and mouth were spattered with sewage. Within the incubation period he became ill with a virulent attack of typhoid fever. He sought, and the Supreme Court of New Jersey granted compensation under the Workmen's Compensation Act. The Court

said that there was no denial of the occurrence of the accident as related by the employee. It was also stated that it was too well demonstrated by the proofs to admit of doubt that sewage may contain typhoid fever germs and that human beings may be infected if germs reach the nose and mouth. No one else in the employee's family was infected with the disease, so that there was no reason to suppose that there was any home cause infection." R. A. C.—*P. H. Reports*, 56, 2326 (December 13, 1940). (*P. H. Engg. Absts.*, Vol. XXI.)

MILK VENDOR SENTENCED. SUCCESSFUL CROWN APPEAL.

At the Madras High Court Mr. Justice Yahya Ali delivered judgment allowing a criminal appeal preferred by the Government against the acquittal of a milk vendor in Palacole, who was tried for selling adulterated milk. The question that arose for decision in the appeal was whether the provisions of the Madras Prevention of Adulteration Act was applicable to "boiled milk" as against "raw milk."

A milk vendor was prosecuted by the Municipality of Palacole for selling milk on June 20 last, adulterated with 13 per cent. water, an offence punishable under Rule 29 of the Act. The Sanitary Inspector of the Municipality seized a sample of it, while it was being sold on the public road and on analysis found it adulterated. The Magistrate acquitted the accused holding that "the accused could not be classed with milk vendors who sell raw milk fraudulently added with water to increase its measure." The accused could not be said to have adulterated the milk so as to increase the bulk or measure or to debase the quality of the milk. The accused, the Magistrate also stated, added some water to the milk with a view to see that the milk did not boil over while it was being heated. The Government preferred the present appeal against the order of acquittal.

His Lordship allowed the appeal setting aside the acquittal order and found the accused guilty of having sold adulterated milk. His Lordship observed that as the appeal was filed by the Government mainly for obtaining a ruling from the High Court as to the applicability of the Act to the sale of hot milk, the sentence on the accused need not be severe in this case as ordinarily it had to be in such cases. The accused was therefore

sentenced to pay a fine of Rs. 15 in default to undergo simple imprisonment for one week. The accused was not represented but as the matter was of public importance an advocate was appointed as *amicus curie*. The Magistrate, His Lordship added, was not justified in introducing as test of liability the purpose for which adulteration was effected and further of importing into it the element of intention to commit fraud. The milk sold by the respondent was not of the nature, substance and quality prescribed under the rule and was not up to the standard of purity prescribed by the local Government. "The Act" His Lordship observed "makes no distinction between raw milk and hot milk and provides no exception in the case of hot milk. To recognise and give effect to such an exception on a *priori* ground would be

contrary to the spirit and intendment of the Act and the rules and would enable to milk vendor to adulterate milk to any extent he pleases and escape liability altogether by merely applying some heat to the milk. Hot milk both as defined in English Law and in the present Madras Act, is nothing but milk in its natural condition which has been made hot and it should contain the prescribed minimum of milk fat and milk solids." The Magistrate in His Lordship's opinion came to an erroneous conclusion as to the effect and scope of the material provisions of the Act and rules.

Mr. A. S. Sivakaminathan, Assistant Public Prosecutor, appeared for the Government. Mr. B. T. Soundararajan for the accused.

(From the *Hindu*, September 4, 1946, page 8, Col. 5).



WHAT DO THEY SAY ABOUT IT?

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

—(Ed.)

WHY DID NAPOLEON'S GRAND ARMY PERISH IN RUSSIA?

When Napoleon's Armies retreated from burning Moscow they carried along famine, uncleanness, and lice infection that form the basis for the spread of spotted typhus. The Grand Army felt itself not beaten by the Russians but conquered by nature alone: Uncleanliness, disease, and weather. Typhus

cases had begun to appear as soon as the main bodies of Napoleon's Armies, totaling 500,000, were assembled. When Napoleon gave orders to retreat from Moscow, not more than 80,000 men were fit for duty. The retreating French Army brought a terrible typhus epidemic to Germany, causing about 300,000 deaths among a population of 20,000,000. Disease and an unusually cold winter caused the fatal destruction of Napoleon's Armies in Russia,

and these factors were therefore a decisive influence in the future destiny of political Europe: H.H. GERSTEIN.—*Waldemar Schweisheimer. Med. Record*, 155, 182-84, (March 4, 1942). (From *P. H. Engg. Absts. Vol. XXII.*)

YOU CAN'T PIGEON-HOLE HEALTH.

"Low income, bad housing and environment, ignorance, high incidence of sickness and mortality, low income—all these continue endlessly in a vicious circle. Health agencies must learn, as welfare agencies have been learning, that these recognizable defects of the common life cannot be remedied by themselves. It is not contended that a health agency can affect the wages of unskilled workers, nor remove them from slums, nor give them basic education. But it is significant that organizations whose purpose is to promote health and to prevent disease should give so little attention to these basic conditions. This is understandable only on the assumption that close devotion to the immediate demands of their specialized task shuts from them all awareness as to the other essentials of wholesome living. A vigorous and vital national health council, having as its objective the building of health to the highest point possible, would have to take cognizance of these basic factors and could at least add its voice to those calling for opportunity for fuller life for all the people."—*Gunn, Selskar M., and Platt, Philip S. Voluntary Health Agencies, New York: Ronald Press, 1945. 364 pp. 3.00.*—(From *American Journal of Public Health and the The Nation's Health, Vol. 36, No. 3.*)

ACCREDITED INSTITUTIONS.

GUARDING THE HEALTH DEPARTMENT.

"The voluntary health agencies, acting in the spirit of our kind of democracy, have often found themselves undertaking to guard the common interest by defending and promoting, and when necessary criticizing, the public health institutions and officials. There is nothing presumptuous in this. It is a proper exercise of the citizen interest in its tax-supported agencies. Such action by citizens or groups of citizens emerges normally out of the major purposes of a voluntary health agency and out of the increasing reliance upon public understanding and public acceptance of new doctrines regarding the prevention of disease and the promotion of health. Such

activity may, indeed, be considered an aspect of the educational function of the voluntary health agency and is perhaps exercised too little rather than too much.

"It takes real vision and leadership to see when and where the private citizens concerned with the health of the community should rally to the defence of their health department, should fight for its standards or for raising the standards, should uphold its unpopular decision in times of emergencies—and should on occasion, criticise the administration. The health department which in the past often had its origin in the fear of people in times of great epidemics, is still thought of by some as the disturber of equanimity and the purveyor of dire warnings. It is the task of the voluntary health agencies to develop understanding until the feeling is firmly established in the citizen's mind that the health department is truly his health department. The rare health officer can bring this about himself; the average health officer needs the voluntary health agency more often than he realises." (*Voluntary Health Agencies, Gunn and Platt. New York: Ronald Press, 1945, 364, pp. 3.*) (From "*American Journal of Public Health and The Nation's Health*" Vol. XXXVI, No. 3.)

PHOTOGRAPHING ODORS.

A physicist at the Sorbonne, Prof. Henry Devaux, has recently discovered a method of photographing the curious patterns created by certain odors on a thin film of talc particles floating on mercury. He affixes a flower petal to the under-surface of a glass plate, which is placed over the open top of a shallow tray containing mercury. While one watches, the powdered talc slowly arranges itself into a definite pattern.

Professor Devaux says this strange action comes from the impinging upon the talc of minute particles emanating from "odor waves" radiated by the flower. These same particles strike the sensitive membranes of the human nose, causing the sensation we term "smell." From the *Kansas City Star*: (From "*Current History*," April, 1939, Page 58.)

CHAIR OF CHILD HEALTH ESTABLISHED IN LONDON.

With Lord Nuffield's approval the trustees of the Nuffield Foundation have allocated £50,000 a year for ten years to provide a chair of child health in the University of London,

an offer which has been gratefully accepted by the trustees of the University. This grant will enable a post-graduate institute of child health to be created for teaching and research on all aspects of child health. It is proposed that the institute shall be associated with the principal children's hospital in this country—the Hospital for Sick Children, Great Ormond Street, London, and with the obstetric department of the British Post-graduate Medical School at the Hammersmith Hospital. Lord Nuffield and the trustees of his foundation believe that the promotion of child health must have a prominent place in the organization of the future health services of the country. They appreciate that the development of research and training in this sphere requires new and enlarged facilities. They desire that the exceptional resources of the University of London for post-graduate education and research may be developed in a manner which will make the new institute of child health worthy of the capital city of the Empire.

The provision of academic centres for the teaching of child health has already been undertaken in several provincial universities, and the Nuffield Provincial Hospitals Trust has within the last three years made a substantial contribution to the University of Durham to assist in creating a chair of child health at King's College, Newcastle-on-Tyne. Edinburgh has had such a chair since 1931, and another has just been established at Liverpool by collaboration of the university with the city council. The title of the new chair is noteworthy. This country has never been backward in the study of pediatrics; on the contrary, it has made great advances in that subject. But "Hospital" or "Department for Diseases of Children" has always been the designation for the institution concerned. Now the idea has become popular that the medical profession has been too pre-occupied with the treatment of disease, and that prevention, or the preservation of health, should have a more prominent place as an objective. Calling the government's projected scheme a "National Health Service" instead of a "National Medical Service" is a case in point.—(From "*The Journal of the American Medical Association*," Vol. 126, No. 9, October 28, 1944, Page, 582.)

SOCIAL SERVICE.

The latest annual report of the National Council of Social Service emphasises that "the dominant idea underlying its work has been the promotion of an effective partnership

between the machinery of Government and the voluntary activities of the community." It shows how the responsibilities of the voluntary societies have increased step by step with the increasing assumption by the State of responsibility for the social needs of its citizens.

Outstanding developments are recorded in the development of voluntary social service in the country-side. Before the war over 600 village halls were built with assistance from funds provided by the Carnegie United Kingdom Trust, and the Treasury through the Development Commission. Since the end of the war, there has been a great revival of interest in village halls; the Carnegie Trust has set aside £100,000 over the next five years to continue their assistance, and the Development Commission has re-commenced its aid. The scheme has been correlated with the development of community centres, and over a thousand new village hall schemes are already in train.

The campaign for the revival of the Parish Council, the smallest unit of local government in the country, has met with marked success, and the proposal for a National Association of Parish Councils will shortly be implemented.

The scheme for aiding rural industries shows that during the war £75,000 of equipment has been supplied to 3,200 village craftsmen.

In the urban areas the report notes a new interest in the work of Local Councils of Social Service, and the establishment of a national Standing Conference of these organisations.

The Citizens' Advice Bureaux will go on in peace-time. A careful examination has shown that the need for their services is as great now as it ever was in time of war, and a National Conference addressed by the Minister of Health in 1945, confirmed this view.

Another development which is noted in the report is the tremendous enthusiasm all over the country for community centres. Emphasis is laid on the importance of the community association as a vigorous representative organisation reflecting the life and interests of the neighbourhood. A National Federation of Community Associations has been formed which will focus these organisations on a nation-wide scale. The National Council is pressing forward with its task of encouraging local authorities to provide adequate premises for neighbourhood life, and here, as elsewhere, the possibilities of temporary accommodation are being actively pursued.—From "*The Journal of the Institution of Municipal and County Engineers*," Vol. LXXII, No. 10.



"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."

THE UDAIPUR CITY MUNICIPAL ACT, 1945.

The election under this Act were conducted on the 23rd July, 1946. The legal constitution of the Council took place on the 1st August, 1946.

It is pleasing to note how in several Indian States which are commonly supposed not to have emerged from a condition of medieval feudalism, self-governing institutions have been introduced, and are being developed on the approved lines of the most advanced parts of British India. One of the laws which have recently been added to the Statute Book of Mewar—an important Rajaputana State—is the Udaipur City Municipal Act, 1945, which, though it follows similar legislation for some of the great cities in British India, has some unique features of its own which deserve to be mentioned.

The Corporation created by the Act for the Municipal administration of Udaipur (the capital of Mewar) is to exercise jurisdiction over such territory as may from time to time be notified by the Minister in charge of the Municipal administration in the State (called in the Act "Minister"), as the City of Udaipur. The city, so defined is divided into eleven wards. Voters possessing certain qualifications based on residence and property and registered in the electoral roll of each ward, elect for each ward such number of members as the Minister may fix, and these members are called "ward members". The ward members of all the wards voting together, elect from among the ward mem-

bers for each ward, one councillor to represent that ward. The eleven councillors thus elected for the eleven wards of the city, together with four councillors nominated by the Minister constitute "the council" and are in their corporate capacity called the Udaipur City Corporation. Each ward member holds office as such for three years, unless certain disqualifications intervene when he ceases to be a member. Each councillor holds office as such so long as he continues to be a ward member.

Thus, the primary electors elect the ward members who in turn elect the councillors. This double process is expected to have the effect of returning to the council a small and select body of persons trusted by the people, and of ensuring efficiency and business capacity. A small council of fifteen with a eleven of nominated members cannot easily degenerate into a mere debating society indulging in academic and controversial political discussions.

At the same time, the ward members are not a mere electoral college for the choice of the councillors but possess definite statutory functions in the administration of the Corporation. They have power to call the attention of the commissioner (the chief executive officer of the corporation) to any neglect of municipal work, or waste of Municipal property or to the wants of any particular locality and may "suggest improvements in administration"—(Section 14). Among the authorities charged with the carrying out of the provisions of the Act are four standing committees, viz., those for accounts, public health, town-planning and public works res-

pectively. Out of the five members of each of these standing committees, three must be ward members who are not councillors (section 24). Ward members who are not councillors can also be appointed to any special committees which the council may choose to appoint. Section 54 of the Act also provides for the convening of a joint meeting of the councillors and ward-members who are not councillors, for the consideration of any important matter of policy. Though by virtue of the rules in schedule I of the Act, the decision on any such matter considered at a joint meeting will be by a majority of the votes of the councillors present, the ward members will have full opportunity of ventilating their views and opinions and influencing the decision of the council. Recognized representatives of the rate-payers of each ward, are thus given a status and enabled to take a responsible part in the administration of the Corporation instead of being relegated to the position of hostile critics of the administration and agitators for redress of grievances.

As Municipal authorities exist for performing certain essential services to the community and, as in the process of such performance, the liberties of individuals may occasionally have to be interfered with or restricted in the interests of the whole community, it is necessary in all municipal laws to vest a certain amount of residuary authority in the Government or in administrative tribunals, for purposes of supervision or revision with a view to remedy unnecessary individual hardship or prevent neglect of public good. How much authority can be reserved by the Government in the interests of the public or of individuals without unnecessarily curtailing the autonomy of the Corporation is a question which will vary from State to State. The powers reserved by the Mewar Government may at first sight appear large but the technical existence of supervisory or revisional powers on paper need not necessarily connote daily interference with the freedom of the Corporation. In this connection, it may be pointed out that whenever, the Act vests a power in the Mewar Government, it refers to the latter as "the Minister". Evidently, this is intended to emphasize the personal factor and to prevent the administration from becoming iron, wooden, unsympathetic. Most of the powers reserved for the Minister are powers such as are usually taken by the Government under

Municipal Acts. For instance, the Minister has power, as already stated, to nominate four out of the fifteen councillors of the Corporation. He has also power *inter alia* to appoint and remove the Commissioner, to inspect or examine any department of the Corporation or call for any documents or information, to direct or provide for the execution of any work or the doing of any Act which may be necessary for the safety of the public to undertake works or to take action in cases where the Council, President or the Commissioner has made default, to sanction, reject, or modify schemes, for works the estimated cost of which exceeds three thousand rupees; and for reasons specified in the Act, to remove the President or Vice-President, to dissolve the council or supersede it for two years or to suspend, cancel or vary its resolutions. Large as these powers are, they are not unusual powers and exist as a last resort against gross negligence or wilful misconduct, even in the Municipal Acts of British Provinces. A few powers however appear unusual but everything will depend on the spirit in which the powers are exercised. Most beneficial powers are capable of being abused but the necessity for their existence cannot be denied. The Act provides that the Minister can remove the name of any person for any reason from any electoral roll. As registration in an electoral roll is necessary for candidature, the Minister can thus disqualify any person from becoming a councillor or ward member. The Minister can exempt any person or property from any of the provisions of the Act. The section which provides this, section 88, is contained in the chapter on taxation and is probably intended to give the Minister powers of granting exemption from taxation only, in deserving cases. But the wording of the section is general and gives the Minister an unqualified suspending and dispensing power in respect of the Act. Licences for use of encroachments on public streets can be granted only with the sanction of the Minister. And even streets can be named only with his previous approval (section 146).

The Act contains some express provisions showing the Government's concern for the Harijans, Bhils and poor people generally. For instance under section 91, buildings and lands owned by Harijans and Bhils and all buildings and lands of an annual rental value of less than Rs. 24 are exempt from

property tax. On principle, one fails to see why a rich member of any community should not make his legal contribution towards Municipal expenditure. And as regards property of an annual value of less than Rs. 24, it is possible that several rich men may invest their money in building small tenements for poor people to live in and there is no reason why such men should not pay property tax on their buildings.

One special feature of the Act is that it comprehends within its scope not only provisions relating to the constitution, powers and functions of a Municipal Corporation, which are generally included in Municipal Acts elsewhere, but also detailed provisions relating to such subjects as public health, offensive trades and nuisances, adulteration of foodstuffs, town-planning and the like which are dealt with by separate special Acts. The bringing together of all provisions relating to Municipal authorities and functions is advantageous both to the citizen and the administration and is a commendable feature of the Act.

While the Act naturally places various duties on the citizen to enable the Corporation and its officials to carry on their duties with efficiency, it does not forget that the Corporation exists for performing certain services to the public and that it should not neglect its own duties. According to the Act, the Corporation must, so far as its funds permit, or so far as is reasonably practicable, provide and maintain an efficient and satisfactory system of public drainage, provide a sufficient supply of wholesome water for domestic purposes and provide and maintain a sufficient number of sanitary conveniences for the use of the public. The Corporation may and if so required by the Minister, must, arrange for the removal of house refuse and the cleansing of latrines and cess-pools, and where it has undertaken this duty and failed to perform it, it is open to an occupier of any affected premises to compel the Corporation to carry out its duty on pain of its having him to pay him as a civil debt a sum of Rs. 10 for every day of default after the expiry of seven days from the date of a notice by him. One other noteworthy provision is that contained in section 182 of the

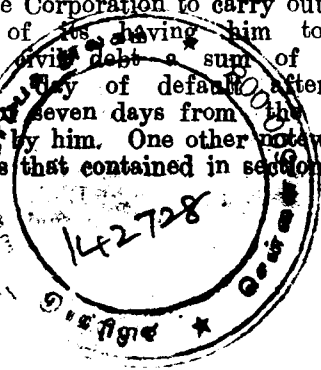
Act by which the Corporation is bound to render innocuous by proper treatment, any sewage water which it may let into any stream, watercourse, canal, pond or lake before it does so. Provisions like these, emphasize the reciprocal character of the obligations imposed by the Municipal laws on the Municipal authorities and the citizens respectively and the necessity for active co-operation between the two for the success of Municipal administration.

Some of the functions which the Corporation may have undertaken to perform cannot be discharged by it satisfactorily, unless its servants, and especially, its scavenging staff, are prevented from striking work and withdrawing from service, without reasonable notice. Section 311 (2) accordingly provides a penalty for the offence of withdrawing from work, by a scavenger without a month's notice or for refusal or neglect to perform his duties. The Minister is empowered to extend this provision to other classes of Municipal servants also, as he may deem fit.

Under the Act, the commissioner is empowered to try all offences under the Act except certain specified ones and to pass sentences in accordance with the Act. The object of this provision is to provide a cheap and summary procedure for the quick and prompt disposal of the petty cases which are likely to arise under the Act. But as this provision is liable to be criticised on the ground that the prosecutor himself becomes a judge, the Act provides that the judicial power of the commissioner is subject to the Rules made under the Act. It is possible to make rules as to provide for the association of an independent assessor with the commissioner in the trial of these cases and thereby minimise the risks arising from the combination in the same person of the functions of a prosecutor and a judge. Moreover, the Act provides a revision to the High Court in cases in which the punishment exceeds a fine of Rs. 50.

If the provisions of the Act are worked with a spirit of co-operation between the Government, the Municipal authorities and the citizens, great improvements can certainly be effected in the municipal administration and public health of Udaipur City.

R. V. K.



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