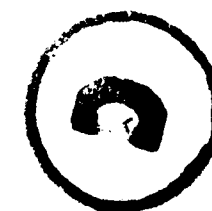


Peoples Health

Dec. 1948

Vol. III

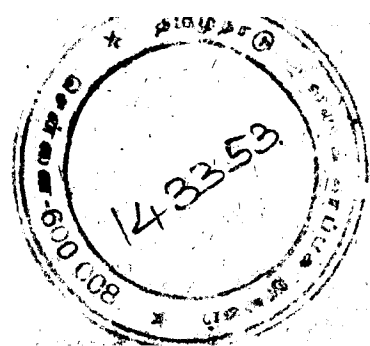


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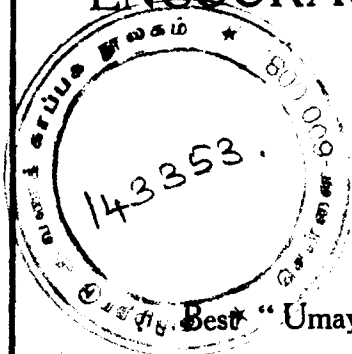
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PEOPLE'S HEALTH

A Pioneer in the Field of Public Health

Vol. III DECEMBER, 1948 No. 3

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VOL. III No. 3

DECEMBER, 1948

ISSUED MONTHLY

EDITORIAL

Public cleansing has undergone a revolution in recent years and now calls for a high degree of technical skill, if it is to be carried out in an efficient, clean and economical manner. There is no service in which it is easier to save or to waste money—(1929).

—J. C. DAWES
(Ministry of Health, England)

BETTER LATE THAN NEVER

A Good Beginning

The Commissioner of the Madras City Corporation has, on the suggestion of the Health Officer, recommended the separation of conservancy from the purview of the Health Department with a view to its being organized as a separate branch of civic service. We congratulate both the officers concerned on taking a right, though belated step. Decades ago, this suggestion was made by Mr. J. R. Coats, a former Engineer of the Corporation, only to be turned down for reasons which could only be guessed at.

But the case for separation is unanswerable. The problems involved

in the efficient and economic public cleansing of modern, growing cities are of great magnitude and involve much technical and scientific organisation. In western countries, it is a specialist's job in which the medical man is about as indispensable as the quack in the practice of medicine! Good intentions cannot be deemed an asset when results show an obstinately mounting curve of disease and mortality. We, therefore, hope that the new City Council will back the Commissioner and sanction the organisation of Public Cleansing Service under a qualified Engineer to be styled *Director of Public*

Cleansing. District municipalities, are still primitive. It is hardly creditable to the Health Department, which has been in charge of the work for over half-a-century. It has yet to evolve and standardise a cheap, efficient and universal sanitary dust bin !

DEPLORABLE NEGLECT

THE STOCK EXCUSE

The stock excuse that there are no qualified sanitary engineers is either lame or disingenuous. At one time, not long ago, there were no qualified health officers either. But what the Government did was to train them for the purpose. Unfortunately, however, the medical man managed to usurp a position of importance without, however, shouldering the responsibility, from the beginning, which has led to the swamping of the purely sanitary aspect of health problems by the curative aspects of medicine. All these years, no attempt has been made to recognise or provide through recruitment and training for a cadre of sanitarians and sanitary engineers who could promote public health by improving the living conditions of the people. At one time, there were sanitary inspectors in charge of the rudiments of public cleansing. Even they would now give a better account of themselves than the health officers, who have taken the task of public cleansing. As it is, our methods of collection, conveyance and disposal of

It is not as if these facts and results are unknown to the authorities. But the ignorance and inertia of the Health Department in this as in many other matters, are proving too strong even for action at ministerial level. Unless the stranglehold of the medical men is removed or relaxed, no improvement can be hoped for. The Bhore Committee apparently sensed this element of danger, and so laid down the desiderata for promoting environmental hygiene, through a separate and trained body of engineers. But the incubus of medical tyranny is a continuing vexation. For, in the latest committee, appointed by the Government of India, to study and report on the steps to be taken to improve environmental sanitation, the chairmanship has been thrown away on a *medical man*, instead of an *engineer* being selected as the more obvious and appropriate choice.

Without meaning any reflection at all on anybody, it must be stated as an axiom, that the outlook of a medical man is consciously or unconsciously swayed by curative rather than by preventive psychology; and it would

be egregious to allow such men to direct the organisation or development of a country's public health.

Even the World Health Organization is under the deleterious sway of a curative mentality; its latest love is the 'BCG', the virtues of which it is now engaged in boosting in many practical ways. But nobody stresses the importance of cutting off tuberculosis at the source by removing or sterilising the death-traps lurking in the environment.

NOTORIOUS OMISSION

The Government's sins of commission could only be equalled by one of notorious omission. While shedding crocodile tears over the unfortunate dearth of qualified public health engineers in the country, the Government did nothing worth mentioning to provide scope for training this class of specialists. If the Government, Provincial and Central, had been really serious about the matter, they would not have failed to take advantage of a world famous congress of public health municipal engineers and exhibition which were opened in Olympia, London, last month, by sending at least a few chosen engineers in the field to attend them. The joy rides of secretariat personnel and medical experts from our country to all points of the compass, have almost become a clumsy joke; but such a vital subject as engineering in relation to public

health continues to remain the Cinderella of our services! If the attitude of our Governments, Central and Provincial, is characterised as criminal, it would not be an over-statement.

WHO!

WHEREIN LIES OUR HOPE?

Even the WHO which has opened a branch in Delhi to serve the eastern countries has been offering scholarships and facilities for specialisation in this or that aspect of the medical side only. It cannot be said that WHO is unaware of the existing environmental conditions in which the people of India live. They cannot also fail to recognise that improvement of the living conditions of man is the very foundation on which any structure towards the promotion of people's health could be reared. WHO is also apparently motivated by the idea that facilities for specialisation in this or that aspect of the medical side would help to import into this unfortunate land more and more drugs manufactured in other parts of the world. If a plea is made for more and more medical specialists, is it not with a view to encouraging the drug trade? We were hoping that WHO was genuinely motivated by service to mankind. We now see we are mistaken.

OUR HOUSING PROBLEMS

It is well known to every schoolboy that Alnaschar built castles in the air;

but our modern experts, Ministers of State, and leaders of political parties are the victims of a strange mental aberration that makes them fall in love with plans for the multiplication of slum dwellings and slum areas in the name of housing the poor and the middle class families. This exhibition of slum mentality in the self-styled saviours of the poor is as gratuitous as it is deplorable. Poverty is not a crime, unless it be a crime thrust on the many by a designing or a heartless few in the name of society. But if housing be deemed a social responsibility, it is obvious that the State should straightaway acknowledge its duty in the matter and first of all evolve and standardise a building code specifying the minimal requirements of health and sanitation. No attempt has yet been made in this direction. Our Madras Minister for Housing, Dr. Gurubatham, has recently astounded us by his pronouncement that a poor man's house could be built at a cost of Rs. 300 and that he has schemes therefor. With the zeal of an irrepressible amateur, he suggests substitutes and improvisations to rig up a hovel rather than a house with imitation articles which would be laughable, were it not a matter too serious for a joke. He proposes to provide boards of straw cemented with tamarind pulp as the roofing material as also for the provision of partitions. We wish

to know how he proposes to make these boards water-proof, fire-proof and insect-proof. These boards would be eaten up like pudding by worms and insects which the tamarind pulp is known to invite.

LOWERING STANDARDS

The Hon. Rajkumari Amrit Kaur, Minister of Health, and also the Minister in charge of Housing, Government of India, declared at the last Health Ministers' conference that a single room tenement is an abomination. So it is. Experience has proved it. Why talk about raising the standards of living of our people and at the same time endeavour to provide substandard hovels for the people to live in. We had occasion to bring the novel scheme of the Madras Minister for Housing to the notice of the Minister of Health, Government of India. She was definitely opposed to lowering the standards of houses for our people, however humble they might be. She would not dole out one pie of grant on the construction of substandard houses and for the creation of new slums. We have the authority of the Hon. Rajkumari Amrit Kaur, to tell the Madras Minister for Housing that the Government of India will not countenance in any circumstance the lowering of standards of houses for the poor and that not a single copper pie of the Government of India grant

would be doled out to finance the construction of such hovels. Does Dr. Gurubatham propose to throw away the little funds at the disposal of the Provincial Government, on the construction of what he considers a dwelling of the type he has in view? If he does, it would be throwing good money after a bad job. We wonder whether the Madras Finance Minister would be a party to this!

HAPPY FAMILY

At the other end, we have a Press report of a Cochin engineer offering to build houses costing from Rs. 2,500 to 3,500 each and that he might be invited by the Madras Ministry to build some of his types of buildings in Madras. The Madras Government has a department of expert builders like the Public Works Department. If so, why should not that department be asked to try out such schemes instead of importing an expert from far off Cochin? It cannot be said that our Ministry are so oblivious of the activities of their own departments, as to be unaware of the appointment of an expert committee appointed by themselves to work out details of typical designs of dwellings satisfying the minimal requirements of accommodation, and comfort. Why should not the Minister for Housing, take advantage of such an expert opinion and if necessary discuss further with them

and evolve a satisfactory plan to meet the minimal requirements of accommodation, comfort, health and sanitation.

Apparently, our Ministry act on the principle that no department should know what the other departments are doing. It is only on some such delightful principle that the Ministry as a whole can misrepresent and undo the people at large!

IS IT A SOLUTION?

In this connection, we would like to refer to the suggestion made recently by certain public men and by the Town Planning Committee, Madras, that a new Minister in charge of Housing and Town Planning should be added to the number of our Ministers. This will only aggravate the problem of housing the new Minister! As it is, we doubt if all the Ministers can put their right hands on their left chests and say to themselves that they have enough work to do. It would be more sensible to redistribute the portfolios among the existing Ministers in a more rational manner. Housing should naturally go along with public health to ensure a more intelligent co-ordination of activity at highest levels than is obtaining at present.

MADRAS CITY WATER-SUPPLY

FROM PILLAR TO POST!

When experts disagree, it is clear that commonsense should save us from

pedantry. The water-supply of the City has so long been subject to experiments at the hands of our experts! The opinions have been so persistently double faced that we despair of any good coming out of the endless committees which are being set up to consider the subject. The Hon. Sri A. B. Shetty, Minister of Health, Madras, recently announced at a public meeting that he would call for a special conference of experts and others to talk over all aspects of the problem. But before the conference was convened, it has been mysteriously sabotaged and the matter has again been referred back to the very committee which has already pronounced several contradictory opinions. When the Ministry announced that the subject had been referred back to the expert committee, some experts ran helter-skelter in quest of ancient text-books in the dusty shelves of the offices of the technical experts, so that they may sleep with these books as their pillows to get inspiration for the impending committee meeting! Whether this sort of movement round the circle is the result of panic or strategy, we are unable to determine. Meanwhile, the incontrovertible facts are that the water available to the citizens of the metropolis is fast dwindling in quantity and the quality as drawn at the consumer's tap is growing more and more malodorous, unpalatable to taste, aestheti-

cally reprehensible and indeed injurious to health, notwithstanding the experts' opinions to the contrary. Injury to health need not necessarily be evidenced by a flare up of water-borne epidemics. The effect could be insidiously experienced by the consumers suffering from intestinal disorders and other troubles which might not lend themselves to be connected directly with the consumption of the city water-supply. A large number of cases of diarrhoea and similar other intestinal disorders have been reported in the City. Despite the fact that the water is declared to be bacteriologically safe, these troubles are experienced. Wherein lies the fault? This is by the way.

Instead of getting out of a discredited rut, the Ministry are anxious to appeal from Philip Sober to Philip Drunk! Why not the Minister of Health talk it over with all concerned in an informal way as he originally planned? It would not commit him in any way, on the other hand, it might help to find a way out.

From official statements, it is very obvious that the Madras Ministry have no intention of embarking on any scheme involving any considerable outlay of capital expenditure for the classic reason of financial stringency! But the same reason is magically disposed of, when the Ministry have any wild cat scheme to which they are committed and which they have

determined to put through. The vital importance of a good, wholesome and plentiful supply of water to the citizens of the metropolis is a serious enough issue on which we would consider the dismissal or formation of a ministry as legitimately dependent. The further argument advanced in favour of *status quo* is that urban municipalities and rural panchayats would complain if similar facilities are not provided for them. This argument amounts in effect to pleading that two wrongs can make a right.

Even if the improvements to the city water-supply, both in quality and quantity, cost the fortune of a Croesus, the money must be found or the city fathers must abdicate and the ministry must resign to make room for those who have the ability, the knowledge and the means to make the city habitable.

Perhaps solutions to these vexed questions can be found only when the Madras Premier takes it into his head to lead a revolt against his own colleagues in his cabinet! We would appeal to him to think seriously of this suggestion. If he responds to our appeal, he would be proving that he is out to serve people's interest as he has often proclaimed at public meetings.

CONTROLLED MATERIALS

We had already suggested the desirability of controlling strictly the distri-

bution of essential materials like steel and cement, with due regard to the needs of essential services. Housing must naturally be given top-priority in view of national health and economic importance, but we regret to point out that two kinds of wastes are being connived at by all authorities concerned. At one end, palatial and luxury residences are still coming up with a sublime indifference to the prevailing conditions of scarcity of the materials. They are a valuable source of black-marketing operation. Nothing has been done to check such an ostentatious exhibition of profiteering.

While the Government have prohibited the construction of places of public resorts like theatres and cinemas, still the Municipal Councils give sanction for the construction of these buildings. When once sanction is obtained from the competent authority, the builders do not hesitate to pay any price for securing cement and steel for their work. Why not the Government issue a special order to all municipalities not to sanction the construction of such buildings?

Secondly, most municipalities and city corporations are engaged (with a zeal, which can only be described as criminal) in forming foot-paths, paving them with cement and then periodically digging them for some reason or other, which is not obvious to the uninstructed spectators. A

PUBLIC HEALTH PROGRESS IN BRITAIN

(A Century of Steady Development)

by

Egon Larsen

The so-called good old days of England were in a large measure, dirty and dangerous old days. It took a man like Edwin Chadwick, a fearless enthusiast, a clean thinker, gifted with dogged determination, to bring about a sanitary reform; and yet, Chadwick was but a layman, a London barrister. He owed much to the influence of that remarkable philosopher, Jeremy Bentham.

The article published hereunder gives an idea of the steady development in public health in Britain. In this country, barring Mahatmaji, no one seems to have appreciated the fundamental importance of improving the environmental sanitation. It is the very foundation of a clean, healthy and contented society. Environmental sanitation is essentially an engineer's job. The profession should be given a chance to shoulder its responsibility to the Society.

—E.d., P.H.

"A Century of Public Health" is the title of a small brochure that is at present being studied by experts in many countries. The brochure comes from Britain, the country with the lowest death-rate in the world (11.4 per thousand) and calls attention to an exhibition to be held in London this month. (15th to 20th Nov. 1948.)

It was not without a struggle that the Britain of the Industrial Revolution, with its slums and epidemics, developed into the healthy country it is to-day. Two factors were responsible for this transformation: the awakening of a sense of social responsibility, brought about by the unselfish zeal of individual reformers, and scientific and technical progress.

Four men took the initiative in rousing the British public from its state of apathy: Dr.

James Lind, who diagnosed ship, hospital, and prison fever as one and the same disease, namely typhus, and ascribed their prevalence to insanitary living conditions; Dr. Richard Mead, who proposed local health committees to cope with epidemics; the celebrated Jenner, the protagonist of vaccination; and Edwin Chadwick, the "father of the English public health system" and propagator of "health-consciousness".

It was not until the country was almost in a state of panic over the terrifying outbreaks of cholera that Chadwick finally got a hearing. To his untiring zeal, which made him many enemies, Britain owes the first Public Health legislation in the world. The Public Health Act of 1848 established a central authority, the "General Board of Health," which had compulsory powers to enlist the aid of the local councils in

the fight for cleanliness and hygiene. Progress was slow—the opposition of large sections of the public had to be overcome, indolence and superstition had to be combated. It took even the medical profession a long time to get rid of obstruction in its own ranks.

ENGINEERS TO THE RESCUE

But the pioneers of health found support in an unexpected quarter: amongst the engineering experts. Engineers showed themselves eager to produce the tools and machinery without which progress would have been unthinkable. They helped the local authorities to install main-drainage systems, isolation hospitals, vaccination centres, water-mains, public baths, abattoirs, and crematoria, and to establish control of food and drugs and systems of refuse-collection. Very soon a colossal industry came into being, which was partly or entirely harnessed to the new public health service.

As late as 1848, some 54,000 people died of cholera. But as soon as main drainage was installed in a town, the death-rate fell from 26 to 17 per thousand. A further fall was recorded as soon as piped water became available. Until the end of the last century, the waterworks were almost exclusively privately owned, and the ordinary people in the thickly populated industrial towns had to make shift with pumps at street corners and in backyards. Today, more than 80 per cent. of the population of Britain has an unlimited supply of house-piped water—fresh, pure, and cheap.

Street-cleaning and refuse-collection were fields in which science, engineering, and industry found plenty of scope for their activities. Britain's towns, villages, and highways have a high reputation for cleanliness; but it needed the co-operation of whole generations of ingenious experts before it was possible to reach the present standards. Today, street-cleaning and refuse-collection are fully mechanised, and

dozens of different types of vehicles are available.

CARE OF YOUNG AND OLD

One of the most important aspects of the public health service is housing. The slums of the old days have been replaced by new towns built on up-to-date, scientific principles. Nowadays, many industrial centres in Britain have "green belts" with modern housing estates. Since the devastating air-raids of World War II, new and more rational building methods, materials, and designs are continually being tried out.

The care of the State and the local authorities for the children is exemplary. Maternity hospitals, child-welfare centres, meals and milk at school, medical and dental treatment, playgrounds—all these are common-places in the Britain of today. The welfare of the aged is receiving more and more attention: many local authorities are building houses and flats specially adapted to the requirements of old people.

Food control is carried out with the aid of the most up-to-date methods and equipment. Special attention is paid to milk, and industry has provided a number of mechanical methods of ensuring cleanliness in the handling of milk.

The passing of the new National Health Act is an appropriate and practical way of celebrating the centenary of the first Act of 1848; it will provide the entire population of Britain with free medical treatment.

The London Exhibition will show the latest developments in the field of Public Health: water, gas, and electricity supply, sewage-disposal, refuse-collection, street-cleaning, medical equipment, road-making, and transport. The Exhibition—the first for ten years—will be combined with a Public Health Congress, which will once again provide an opportunity for British and foreign experts to exchange views. The Congress and the Exhibition are expected to attract large numbers of overseas visitors.

FOOD PROBLEM AND INSECT PESTS

(Control Work By Commonwealth Entomologists)

by

Joseph Kalmer

We have in these columns drawn attention to the deterioration of foodgrains through bad storage. Large quantities of these precious commodities have been lost. The Food Ministry, Government of India, have through their experts done some research in the matter of healthy storage of foodgrains. We do not know how far the Provincial Governments have been benefited by the advice of our research workers.

In Madras Presidency, we understand, although the paddy crop has come off well, yet, they stand to suffer by the attack of insects and worms. It would appear that the Agricultural Department, through their experts, are trying to control pests by spraying DDT. The matter is of intense concern to the people. We suggest that effective organisation should be set up to avert such a catastrophe. The article printed hereunder gives a few tips in that direction and we invite the special attention of the experts and the administrations alike to this article. *Ed., P.H.*

A few weeks ago the Austrian authorities had to turn to the British occupation troops for help. The spruce spider (*Liparis Monachia*), also known as black arches, had increased so greatly in the coniferous forests of Styria that it threatened to destroy the whole stock of timber. The British authorities put insecticides and aircraft at their disposal, and in a few hours the danger was over.

Insects can, not only destroy whole harvests consuming even the stalk, but also transmit fungus and virus diseases and ruin stocks of milled timber; they destroy forests and attack grain stored in warehouses and silos. Many insects are capable of infecting animals and human beings with fatal diseases.

The greatest danger lies in the fact that certain insects are capable of breeding anywhere. There are more different kinds of insects in existence than all other land animals combined, and it is not surprising to learn that the entomologists believe that without insects there would be no starvation in the world: and that prices of the necessities of life could be reduced if so much food were not lost through the ravages of insect pests.

Britain holds a leading position in the campaign against insect pests and there has been widespread interest in the Commonwealth Entomological Conference, which held its fifth meeting in London in July last. There had been no meeting since 1935 but research on

pest control had made tremendous strides even during the war. The meeting was convened by the Commonwealth Agricultural Bureau and organised by the Commonwealth Institute of Entomology. The latter institution was founded in 1913 and is the oldest institution of its kind in the Commonwealth.

INFORMATION SERVICE

The Institute has two main functions: identification of insects sent in by overseas entomologists and the preparation of two journals published monthly, containing comprehensive abstracts of anything that is published elsewhere relating to applied entomology. At the same time it runs an information service on every aspect of entomology, which is available for use by any inquirer in the world. The Institute also issues the quarterly Bulletin of Entomological Research which has now appeared for over 38 years, publishing articles on all aspects of applied entomology.

The Commonwealth Entomological Conference devoted a whole day to new insecticides such as DDT and other synthetics. DDT has advantages over such vegetable preparations as nicotine, pyrethrum and derris in that it is not affected by climatic conditions, retaining its efficacy for weeks or months. On the other hand, DDT is not equally effective against all species of insects, and it has happened that insects not previously considered harmful have multiplied and dispersed to a dangerous extent through the eradication of their natural enemies by DDT.

One of the purposes of the conference was to remedy this state of affairs. Among the synthetics referred to above is Gammexane. It is not only the most effective antilocus compound, but has the added advantage of not being dangerous to cattle.

Another whole day was devoted to biological

control of insect pests, that is, attacking them by means of their natural enemies. An example is seen in the case of the small cabbage-white butterfly, which reached New Zealand in 1930 and Australia in 1939. A few years later, it had increased to such an extent that the growing of cabbages—the natural diet of the cabbage-white caterpillars—became impossible. Later, parasites imported from Europe and America reduced the plague to reasonable dimensions.

STORAGE OF GRAINS

Many insects are useful in preventing the spread of certain weeds. A small weevil exported from Britain to New Zealand has checked the spread of gorse; the weevil lays its eggs in the seed-pods and the larvae feed on the gorse seed.

Considerable success has already been achieved in the campaign against insect pests in stored food-stuffs. This is another example of a scientific advance made during the war; drying grain, for instance, makes it less susceptible to infestation. So-called "inert dusts"—in themselves non-poisonous—were also found useful for repelling insects. Fumigation has also proved its value.

Successes have been achieved in the campaign against tse-tse fly. This fly had made large territories uncultivable, as it is the carrier of the bacilli responsible for sleeping sickness in man and the fatal cattle disease, nagana.

Finally, there is the London Anti-Locust Research Centre, whose director, Dr. B. V. Uvarov, with his colleagues developed new protective measures during the war. The work was materially assisted by the British Army's Middle East Supply Centre in Cairo, which collaborated with the London institution, showing great devotion to duty in its efforts to ensure the safety of the Middle East harvests, thereby protecting the troops in that theatre of war, as well as the civil population, from hunger.

A PLEA FOR AN INSTITUTE OF LOCAL ADMINISTRATION

(By A Municipal Administrator)

The author of this article seems to feel strongly that the administration of our Local Self-Government institutions should be radically changed. His opinion is shared by many, not excluding the Minister for Local Administration, Madras. While everyone puts forward his own pet idea of reform, the man in power invariably succeeds, not necessarily the man with a sound understanding of the problem. To obviate this tragedy, democracy has devised a method by which the best opinion on the subject could be pooled, sifted and understood before solutions are found. This is exactly the method which was adopted in Great Britain before introducing reform in Local Self-Government. A committee was constituted to examine witnesses, study their evidence, draw conclusions and draft a Local-Government Bill. That Bill was placed before the Parliament and passed into law. In this unfortunate land, on the other hand, Local Administration is made the plaything of power politics.

We strongly support the plea for an institution to train people in the art of local administration. The University of Madras has a debating society called the Institute of Public Administration, where subjects of topical interest are discussed occasionally. But what the author urges is an institute specially devoted to local administration.

We may, in this connection, call attention to a broadcast speech by the late Rt. Hon. V. S. Srinivasa Sastri in November, 1940, on "practical education." He pleaded in his own inimitable way that dolts and nincompoops should be excluded from public life. Persons who know nothing of municipal administration, who have no aptitude for it, and who are often incapable of understanding municipal problems, are returned as representatives of rate-payers to the local bodies. This is the tragedy of our country. Why not, as late Rt. Hon. Sastri put it, introduce a diploma course for citizenship and make it obligatory that only those who have secured a diploma should be permitted to stand as candidates for local bodies and legislatures.

It may be argued *per contra* that democracy can never work if such a process of filtration is introduced. But one cannot afford to forget the fact that, in British democracy, anyone who comes forward to render service to the public devotes a lot of time and study to the understanding of the problem before he shoulders public responsibility. Do the leaders evince such thirst for knowledge in this country?

Ed. P.H.

Our attainment of political freedom and the removal thereby, of the biggest hurdle in the way of building up our country into a great and progressive democratic nation, has made the actual problems of national reconstruction of vital and urgent importance. Of these, the problems of local self-government are of surpassing significance. Not only because efficient local administration is important for the welfare of the millions of citizens living within the jurisdiction of the different local bodies, but also because these quasi-governmental bodies have to be pressed into service in the mammoth task of national rehabilitation that awaits us. Not only in the actual execution of developmental schemes are these bodies likely to be of vital help, but also in inculcating habits of democratic discipline and corporate activity, among the most wideawake as well as progressive section of the country's population,—without which training we can never hope to grow into strong modern nation,—their importance cannot be exaggerated.

There is general realization that local self-governing bodies need to be reorganized to suit the new set-up of the country. But no comprehensive or well-thought-out idea of reform has come from any quarter up to now. This, of course, is not surprising, seeing that the practical problems of administration are only just beginning to engage the attention of the progressive minds in the country, which was till recently engaged in the struggle for freedom. In fact, the amateurishness of the ordinary politicians in this respect is evident from the statements which come out from them touching on this matter. The other day Sri Kamaraj Nadar said that the local bodies were better abolished; and many are the public men whose Ramarajya is one of self-sufficient villages. The superficiality and lack of wisdom of such extreme statements and ideals are, of course, becoming clear to an increasing number of persons.

The programme of the Government in this matter unfortunately suffers from a similar type of defect. Everybody would have been impressed by the splendid statements of policy made by the Hon'ble Minister for Local Administration in his various speeches. He has vividly visualized the problem and has a sound sense in seeking a solution. One would have thought that the proposed amendments to the Madras District Municipalities Act, which were recently placed by him before a conference of municipal Chairmen, would reshape this Act in harmony with these ministerial statements of policy, making the municipal councils efficient instruments of civic welfare and democratic discipline. In fact, it is not difficult to agree with the Chairmen who pronounced them as thoroughly inadequate. This is not to suggest that the amendments which the Chairmen have decided to propose, are likely to be much wiser. Because the Chairmen's love of more power is much more than their ability, based on study and thought, to suggest reforms to municipal administration. Most of them can not claim competency as municipal administrators.

But it cannot be denied that the changes in the Act suggested by Government are disappointing to persons who had expected that the excellent policy pronounced by the highest spokesman, would be embodied in the Act and, that a concrete beginning in this vital sphere of nation building would be initiated.

The reason for this divergence between policy and practice is not far to seek. Our powers for formulating correct ideals of administration have been developed during the years of political subjection, without having any part in running the administration. But the actual reform of the existing administrative structure is a serious task requiring much thought, and this application of elaborate, strenuous and practical thought to the actual problems of administration and administrative structure is a new set-up.

It is not only the reform of the structure of the local bodies that require study and investigation; the reformed local bodies would require wise guidance and expert advice to a greater measure than before. There is no organization of Government at present to carry out this vital task. Neither would a new officer or department set up for this purpose be able to discharge this function satisfactorily. Because the difficulties now confronting those engaged in the administration of local bodies and that would increasingly confront them in future are mainly lack of standards and ignorance of the methods of progressive civic and local administration. The writer tried the other day to formulate certain standards and to lay down the targets for the different branches of civic administration; that is, the first stage in the task of preparing a Master Plan for a town. He found that to begin with, there were serious divergencies of opinion regarding the functions of municipal councils in free India. The Bhore Committee is for taking away the responsibility for environmental hygiene from them—that is, their present public health functions; the Water Supply and Drainage Committee is for divesting the municipal councils of their entire responsibility for the execution and maintenance of water supply, and drainage schemes; the more important roads in the town have already been taken out of their hands; it is also known that the Education Department has a plan for divesting local bodies of their responsibility for Elementary Education. The Honble Minister for Local Administration Department has, of course, consistently proclaimed himself to be in favour of more power to local bodies; but when it is seen that expert Committees appointed by Government as well as other Departments of Government are thinking and working in the opposite direction, that is itself the biggest discouragement to reformers of the working of local bodies. If, however, we proceed further, we are confronted by

the serious absence of standards. How many miles of roads must a town of given size and population have, how much open space, how many maternity centres, how many Elementary and Secondary Schools. Here we have only the guidance of unhelpful figures from some foreign countries. Going deeper to questions of the ideal to be followed in rebuilding a town, whether it is to be on the pattern of the industrial and commercial cities of the west or whether we are to have different type of towns based on different ideals, there is no guidance at all from anywhere. Same is the difficulty in such vital matters as housing, local finance and taxation, etc. These points to the urgent need for creation of an agency for the study of the many and fascinating problems of local administration. A body which will take up the study of and investigation into the basic as well as immediate problems that affect the Municipal Councils, District Boards and Panchayat Boards in our province and collect up an adequate amount of exact and comprehensive knowledge in the matter will be doing a great National Service.

The need for such an Institute of Local Administration is made more urgent by the plans of the Government for granting more powers to local bodies and making them completely autonomous. Because when the overriding and detailed control which at present Government exercise over the working of local bodies is removed, they are bound, as they must, to grow in all directions, take up many new ventures, and adopt new methods of working. Chaos and waste are bound to occur if local bodies are to go into unguided experimentations. The greatest help Government can give them once they are made autonomous, is wise guidance and expert advice. Releasing the local bodies from the cramping red-tapism of Governmental supervision into autonomy of course cannot mean that the Government has no more responsibility in the matter; the fact, their responsibility

to see that these quasi-Governmental bodies function and progress along correct lines becomes all the greater with the grant of this autonomy. And the method of control at once most acceptable to the local bodies and most effective from the Government's point of view is likely to be the one through wise guidance and expert advice which only the labours of an Institute of the type indicated above would enable the Government to give.

The future possibilities of such an Institute are also great. For instance, the Hon'ble Minister for Local Administration has recently declared that arrangements will soon be made for giving training in administration to the persons recruited

for the various services under local bodies. The Institute proposed here can be made to form the basis of the organization for this training.

The difficulty in the way of every new proposal made at present is finance but the present suggestion is free from this difficulty. There is no more justifiable object to which the local bodies can be made to contribute than the setting up and working of an Institute of Local Administration; and if the Institute fulfils the function expected of it, no contribution is likely to be made with greater willingness by the local bodies.

It is to be hoped that Government will consider the suggestion herein made.

A CHARTER FOR TWENTIETH CENTURY MAN

Man has certain needs and certain rights:

HIS NEEDS—

Peace
Security
Work
Leisure

HIS RIGHTS—

Equality of Opportunity in Education, for work and for leisure.

Self-expression in speech and writing.

Access to the speeches and writings of others.

Access to true information and protection against misleading official propaganda.

Freedom from arrest, save for offences prescribed by law, from imprisonment without trial, from trial by biased or Party courts, and from physical and mental torture.

Freedom to change his Government by peaceful means.

The purpose of the State is to fulfil these Needs and to safeguard these Rights. The State, therefore, has certain duties to the individual. They are:—

To plan for peace by the surrender of sovereign powers to a Federal Government.

To plan for prosperity and the common welfare.

To guarantee the citizen against violence.

To guarantee suitable occupation and reasonable leisure.

To guarantee such education as will enable the citizen to make the most of his talents.

To guarantee a free Press and a truthful Radio News Service.

The citizen of a State which fulfils this purpose, owes certain obligations. They are:—

To serve the community to which he belongs.

To participate in the choice of its government and the conduct of its affairs.

To keep himself informed in regard to men and affairs so that he will be able to participate effectively and to choose wisely.

C. E. M. Joad.

COLINDALE—HOME OF BACTERIA

Breeding Standard Cultures for World Use

by

L. Roberts

At Colindale, on London's northern outskirts, there is an interesting house. It is a pleasant and inconspicuous building, but it houses man's deadliest enemies and tiniest friends: bacteria.

The National Collection of Type Culture is its official title. Long rows of shining glass containers in it hold agar jellies containing pure cultures of almost every kind of infectious micro-organism. It is, in fact, a living catalogue of infections; and it is useful to remember that over 40 per cent. of all man's diseases are caused by living organisms—by bacteria, by virus growths or fungi. At present the Colindale Institute contains some 3,000 different pure bacterial cultures, and their number is growing steadily.

How does the Bacteriological Reference Library at Colindale work?

Say, bacteria have been bred in a Bristol hospital, where they cannot at once be identified—the culture is sent to the National Collection of Type Cultures, where it is easily identified by comparison with standard cultures bred there.

Chemical therapeutic firms often ask for microbes to test the efficacy of their products. Such firms naturally develop bacterial cultures in their own research laboratories, but if comparative data of general validity are required, the products have to be tested against standard cultures such as the ones available at Colindale. Another object of the Institute is to furnish university laboratories with all sorts of microbe cultures when required for demonstration or research purposes.

FLYING DANGERS

To complete their collection, Colindale specialists often go hunting out bacteria from all parts of Britain, and frequently from overseas. Bacteria are great travellers, and the seas surrounding Britain do not protect her from invasion by disease. The development of flying has increased this danger considerably.

As if to show how real this danger is, two black rats once humped out of an aircraft which had just landed from Karachi. They had hidden in the freight while the machine was being loaded. Insects also stow away in aircraft and ships, and can carry infectious diseases from tropical countries.

In the modern world, constant vigil is the first requirement to maintain the people's health. The extent of this danger was shown recently when the deadly malaria-carrier *Anopheles Gambiae* reached Brazil from Africa, and troops had to be used for three years to fight the insects.

It would be wrong to assume that the work done at the Colindale research laboratories only concerns microbes of dread diseases such as cholera, tuberculosis or typhus. Bacteria causing relatively harmless illnesses are also keenly studied. Experiments are being made at present in Britain to identify the germ of the common cold. A group of specialists at the Harvard Hospital, Salisbury, England, and others at the National Institute of Medical Research, Hampstead, London, are working on this problem. Various types of suspect bacteria are also sent to Colindale from time to time, but as yet it has not been possible to identify the virus or grow a pure culture of it.

A recent issue of the *British Medical Journal* contained a careful analysis of the practical use of bactericidal vapours in workshops and school premises. The data shows that under proper supervision such vapours are an effective means of preventing colds. They do not irritate the eyes or the pituitary membranes, and the cost of equipment and running is not excessive.

Another investigation recently made by British scientists and in which Colindale assisted, sought to discover whether cracked cups and plates might carry infections. Results show that this danger really does exist in restaurants and canteens.

FRIENDLY BACTERIA

As well as pure culture of infectious micro-organisms, the living library at Colindale also accommodates beneficial bacteria and fungi. Antibiotics like penicillin, streptomycin and their derivatives have acquired great importance in medicine in latter years, so it is only natural that these living benefactors from the world of mycodermis should also be given special attention at Colindale. Pure cultures are most important for certain industrial purposes, for instance in

fermenting. The Colindale Institute is constantly helping brewers and producers of yeast, alcohol and dairy products.

One interesting innovation at Colindale is the freeze-drying process for producing bacterial cultures. A small colony of bacteria is mixed with blood serum in a test-tube, cooled below zero, dried and then sealed up. Bacteria so prepared remain alive for years without losing their virulence.

The Colindale Institute is also playing an important part in the public health service now being developed in Britain on such an ambitious scale. It is the "general headquarters" in the war against bacterial disease.

Of course the National Collection of Type Cultures is closely connected with parallel institutes in other countries—for example the Institute Pasteur in Paris—and in the British Commonwealth itself. Last summer a Commonwealth Conference of specialists was held, which proposed the establishment of a strict organisation which would make and extend collections of bacterial cultures. The Colindale Institute is to be the headquarters of this organisation.

CHEAP MILK FOR ALL

PRODUCERS' ORGANISATION SERVES BRITISH CONSUMERS

by

L. F. Easterbrook

(Agricultural Correspondent, "News Chronicle", London)

The Milk Marketing Board is one of the most remarkable organisations in England. It exists only by the goodwill of the producers (they could vote it out of existence tomorrow), yet it is controlled by the State through the Ministry of Food. Every dairy farmer in England must belong to it and sell his milk through it.

The Board was created by the producers to get fair play for producers, particularly the smaller farmers, and yet the State fixes the prices at which they sell their milk and the State employs the Board as its agent to see that milk is fairly and efficiently distributed and that certain classes of people receive more milk than others. It is a great co-operative enterprise in which producers work together with the State which represents the consumers' interests, to see that as much milk as possible is distributed.

In 1932 a number of dairy farmers co-operated and drew up a scheme for forming a Milk Marketing Board under an Act of Parliament that was designed for the benefit of all farmers. The Milk Scheme came into being under this Act in 1933, and the Milk Marketing Board was formed. It divides England and Wales into 11 Regions and the farmers elect 15 representatives to form the Board, together with two more who are co-opted.

WARTIME DIFFICULTY

Before World War II the Board's main concern was to market milk efficiently and promote the consumption of fresh milk, of which the supply exceeded the demand. But when World War II

came pasture had to be ploughed up to grow wheat and potatoes and Britain could no longer obtain the vast quantities of imported feeding stuffs she was accustomed to using to maintain her livestock. There was a grave danger of fresh milk supplies falling while demand increased.

The Ministry of Food, representing the State, therefore, intervened. Since 1942, all producers must sell to the Board all milk they have for wholesale disposal, and the Board in turn must sell that milk to the Ministry of Food. The Ministry sells it to the distributors and determines its destination. The Board acts as the Ministry's agent in collecting money from purchasers, and in distributing to producers grants made by the Ministry for such things as quality premiums.

The Board also acts for the Ministry in planning the collection and transport of milk, maintaining 7,000 five-ton lorries for this purpose. It is estimated that by the proper organisation of milk transport the Board has been able to reduce the cost of getting milk to the distributor by something like £1,000,000 (Rs. 1.33 crores) a year.

REDUCED PRICES

The price the producer receives for his milk is also fixed by the State, but in this case through the Ministry of Agriculture. This is done in consultation with the Board.

The Board and the Ministry of Food have established priorities, and they also divert milk

Cheap Milk for all

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at specially cheap prices to certain classes of consumers. Before World War II the Board was selling milk to school children at one half-penny (about 5 pies) for one-third of a pint which was less than half the usual price, and in 1938-39 there were 26,000,000 gallons of milk sold in this way. The Board had also made proposals for enabling poor consumers, particularly mothers and young children, to obtain supplies at a cheap price.

When World War II came and the Ministry of Food took control, they followed up this pioneer work by the Board and introduced the National Milk Scheme which was subsequently incorporated in the Welfare Foods Service. This was a bold act, for it seemed doubtful at that stage if fresh milk supplies could be maintained.

The Government has also developed and extended the Milk in Schools scheme, and milk is supplied free in schools. The result is that 200,000,000 gallons of milk are now being distributed in schools and to expectant mothers and "under fives." Milk consumption has increased by 50 per cent.—from an average of 0.43 pint daily to 0.67.

SPECIAL ALLOCATIONS

There are other priorities. Children and adolescents from five to 18 years of age are guaranteed three-and-a-half pints per week, and children unable to attend school can claim five pints a week. Invalids suffering from specified diseases can obtain, with a medical certificate, a maximum of 14 pints per week. Hospitals, maternity homes, sanatoria, boarding-schools and orphanages all get special allocations, and workers in workshops and factories receive a special supply that is determined by the nature of their work.

All this has thrown a great strain on dairy farmers. They have felt particularly the loss of imported concentrated food, such as dairy

nuts. Yet, in spite of this, they have provided 50 per cent. more fresh milk than before World War II.

The producers have met this situation in a variety of ways. They have improved the productivity of the pasture remaining to them, and they have grown more crops fairly rich in protein, such as kale and mangolds, to feed their cows. Milk was diverted from cheese and butter-making, and the Government encouraged them to use a calf gruel instead of fresh milk, for feeding their calves.

INCREASED SUPPLIES

It was felt that the summer grass would provide the required amount of fresh milk at that time of the year and so autumn calving was encouraged to provide more milk in winter time. As a result of this, December milk supplies have increased from 76,500,000 gallons in 1939 to just on 95,000,000 gallons in 1947.

Before World War II only five per cent. of the total concentrates fed to dairy cows were home-grown.* The proportion is now 40 per cent. Yields are increasing, but instead of dairy cattle being reduced under these circumstances, it has been possible to increase them slightly by about 100,000.

This has meant, however, that in spite of increased fresh milk supplies, milk has had to be rationed over most of the year to non-priority consumers. At the worst time of the year, in winter, non-priority consumers are down to a ration of two pints per head per week so that priority supplies can be maintained.

Most of Britain's farmers are in a small way of business. Out of 140,000 dairy farmers about 100,000 keep only 15 cows or less. British dairy farming is an industry made up of small units. The Milk Board welds them into a national organisation and gives the smallest dairy farmer the protection and advantages in selling his

milk that the richest and most powerful producer enjoys.

MILK PRODUCTS

The Board also has its own creameries, where it can manufacture milk in the surplus season into butter and other products. Not only does this mean that the farmer with surplus milk in summer need not throw it on the market for what it will fetch; it means also that the manufacturer who used to tell pitiful stories of the high cost of processing milk, and therefore find

the excuse for paying a miserable price, has his costs and figures checked by those of the Board's depots.

The Milk Marketing Board has become a unique British institution. It still stands for the protection of the farmer, but by working in close co-operation with the Government through the Ministry of Food, it has shown how it can serve the consumer also and provide a democratic basis for distributing milk efficiently and fairly on the lines of national needs rather than individual profit.

THE WHENCE AND WHITHER OF MILK SANITATION

Modern milk sanitation began with the real development of bacteriology about 1880, when the gelatin and agar plate methods were developed. There was discussion over the question whether gelatin or agar was more satisfactory for determining the number of bacteria present. Hesse and Niedner's report shows that it was generally agreed by 1898 that agar was better adapted for quantitative determination than gelatin.

Reports in 1890 on bacterial examination of New England milk supplies emphasized the need for better dairy sanitation. In 1893, Dr. Coit of Montclair, N. J., induced a local dairyman to produce a clean milk for baby feeding under medical supervision. This was the beginning of certified milk.

New York City Board of Health Regulations in 1896, prohibiting the sale of milk except under permit, was the foundation of our modern approach to milk-sanitation control. Boston was the first city to fix a definite bacterial limit.

The laboratory section of the American Public Health Association was organized to standardize methods of bacteriological examination of water supplies in 1900. The demand then arose for similar methods for the examination of milk supplies. Two schools of thought developed. One group felt that the important thing was to detect the total amount of bacterial life present in milk, and the other group was interested only in the growth of pathogens.

The development of the phosphate test for checking pasteurization of milk is very important, and this test has become a valuable means of checking milk supplies.

(Extracted by D. W. Jones.)

THREE MONTHS OF NATIONAL HEALTH SERVICE

by

Edward Hodgkin

London (By Air Mail)—Since July 5 last my weekly pay has been the lighter by 4s. 11d. (Rs. 3-4-0) deducted at source and representing my contribution to the scheme of social security which is being built up in Britain. Of this sum 8½d. (7½ annas) goes to help pay for the National Health Service on which most public attention has been focussed.

I have heard a lot of stories about this service (which has become abbreviated like everything else these days and is now always called N.H.S.) some flattering, some the reverse. I have heard of elaborate operations performed free, and of examples of treatment held up by "red tape." It has been difficult to get an accurate picture of how, in fact, the N.H.S., was working after its first three months.

TALK WITH DOCTOR

The other day I had a chance to talk this question over with a doctor who is in a good position to judge. He is an ordinary general practitioner, living in a semi-rural district about 20 miles from London, but he is also on the Council of the British Medical Association, which is the body that protects the interests of doctors. His considered opinion was that the N.H.S. was working well; not perfectly, of course, but a good deal better than might have been expected.

About 90 per cent. of the whole population have joined the scheme. That is to say, they have chosen their doctor and been accepted by him for his list, and as practically all the doctors have by now joined, there has not been that

war between member and non-member doctors which, six months ago, looked quite possible.

I asked the doctor whether he found he had much more work under the new scheme. He said that his surgery was certainly more crowded, but that, of course, he had fewer visits to make outside. A doctor will still visit his registered patients if they are too ill to come to see him, or if they chose to remain private patients and go on paying the old fees. But if you are registered under the N. H. S. you are expected, if you are well enough, to come along to the surgery and wait your turn.

He said that as far as he could see people were not wasting their own and the doctors' time by making unnecessary visits, just for the sake of getting something for nothing, but he was glad to notice that parents were bringing their children along to the doctor more often, instead of doctoring them at home, as was quite often the case in the past when saving a visit to the doctor meant saving (5s. Rs. 3-5-0) or more.

BASIS OF PAYMENT

His main criticism of the new scheme was that he thought the fees paid by the Government to the doctors would probably turn out to be too small. The basis of payment is what is called the capitation fee; this is the fixed sum to be paid each year to the doctor for each name on his book.

The fee will probably work at about 17s. (Rs. 11-4-0) for each name, and this would be ample if doctors could reckon on getting nearly the maximum number of names allowed (which

is 4,000) but his experience was that most of the doctors in his district could only expect to get about half the maximum number of patients. When the health centres (which are going to be places where surgery equipment, consulting rooms, secretarial assistance and so on are provided for groups of doctors in one area) get going, the individual doctor's overheads will be cut down. But at present they are still high.

On the other hand, this doctor thought that the administrative side of the new scheme was working better than the old National Health Insurance (usually known as "the panel") though he agreed that specialists and hospitals were still uncertain of their position. On the whole, though his verdict after three months' experience was favourable. "The new Health Service is going to work all right", he said. "But it's still being run in, like a new car. Soon it will be time to give it a check-up, but I don't think that when we do, we shall find so much that needs altering."

CAUSE OF COMMON COLD

This being the beginning of the season when doctors and patients start worrying about the common cold, I was interested to see that one Member of Parliament has been asking about the results achieved by a body called the Common Cold Research Unit. The title of this body is self-explanatory, but its history is more romantic.

In 1940 the American Red Cross and Harvard University made a gift to Britain of a hospital. This was shipped across the Atlantic in sections and erected at Salisbury, in Southern England. It is known now as the Harvard Hospital. In May 1946, the Ministry of Health and the Medical Research Council began there a systematic investigation of the cause and cure of the common cold. Volunteers were called for to come and catch cold, and the supply of human guinea-pigs has continued ever since, many of them university students, but including men and women from every walk of life and even honeymoon couples.

The latest bulletin which was given to Parliament on the investigation said that no very dramatic results have been achieved yet, though something about the type of virus which causes colds has been established. Apparently the object—if you can call anything so minute an object—which causes all the trouble is one ten-thousandth of a millimetre in length—about the size of the influenza virus, and it remains active even at a temperature as low as—70 degrees centigrade.

It is hoped that some day the team of doctors working at Salisbury will succeed in growing the virus, and that would be the main step towards finding how to deal with it. Meantime we must all expect our winter sneezes, and unfortunately we don't have the satisfaction of thinking that our colds make any contribution to science.

The sour faces of the multitude like their sweet faces have no deep cause—disguise no God, but are put on and off as the wind blows and a newspaper directs. Yet is the discontent of the multitude more formidable than that of the Senate and the College? It is easy enough for the firm man who knows the world to brook the rage of the cultivated classes whose rage is decorous and prudent who are timid being vulnerable themselves.

Emerson

PRACTICAL RESEARCH INTO FOOD PROBLEMS

by

Nikolaus Wendt

With prevailing food shortages in most countries of the world, dietetic research is becoming a compelling necessity. Science is increasingly taking charge of the larder, for full value has to be obtained from the available foodstuffs. This article describes the work of British scientists in this sphere.

The important role played by scientific dietetic research was recognised by Britain's Government long before World War II. In addition to general problems of food distribution which exist in all countries, there were in Britain those special difficulties due to her geographical position in relation to the various parts of the Commonwealth. It is always necessary to take into account climatic conditions as well as complicated transport connections in order to overcome these problems.

Some years before World War II the Government transferred scientific investigation of all national dietetic questions to the Food Investigation Board, a State-sponsored scientific institution which studied basic problems of scientific feeding and took part in developing practical methods for improving conservation of food and analysing it more advantageously. The Board recently published its official report—the first since 1938—giving a survey of its scientific work.

One of the most important problems tackled during the period 1940 to '46 when war entailed acute shortages was in connection with making the best use of available shipping space, so as to supply the nutritional requirements of the civil population as well as of the Army in various

parts of the Commonwealth. The result of research initiated for this purpose was the discovery that it is possible in the case of a large number of valuable foodstuffs to remove the water-content to a great extent. This applies to meat, vegetables, eggs, fish and milk which keep their own qualities unaltered and undiminished.

NEW PROCESS

The possibility of doing this gave rise to a new scientific process, the dehydrated food being afterwards packed in an inert gas—usually nitrogen—in sealed, gas-tight metal containers. This method preserves nutritive value and vitamins in addition to the appearance and flavour of the food concerned. Much time was also saved, as, for instance, in the case of dehydrated potatoes: this discovery has proved itself so valuable that even after the end of World War II, dehydrated potato powder has continued in general use.

The efforts of the Food Investigation Board are also directed—among other things—to the conservation of those substances which please the palate; for instance, in the case of dried meat the tasty meat-juice in extract form together with a sufficiency of fat.

Apart from extensive research into basic problems, the Food Investigation Board had gone into details on a range of individual questions of importance in nourishing the civil population as well as for Britain's exports. These cover new methods of freezing, smoking and salting fish, storage and preservation of potatoes, prevention of undesirable ferments in fresh orange juice, which is supplied to expectant mothers and children as an indispensable source of vitamins. Lobsters, herrings, carrots and whale-meat have similarly been considered by the investigators, and a number of successful

experiments have been carried out on the preservation of foods in such a way that their tissue structure remains unaltered during the process.

Even the "breathing" of apples in storage, their intake of oxygen and exhalation of carbon-dioxide, has been investigated thoroughly from the point of view of preservation and flavour. The resultant practical application was a process by which apples can be stored better by means of waxy "skin coatings". This also led to the discovery of a method for treating fruit subject to "scald" and other diseases.

INSECT PESTS OF STORED FOOD PRODUCTS AND THEIR CONTROL

Insect pests are found almost everywhere, being spread principally by commerce. They cause a great deal of damage by attacking foods in the field, in storage, and before and after processing. Insect proofing and planning for easily cleaned and fumigated storage rooms should be considered. Cleanliness is important. Small quantities of infested foods should be destroyed. Practices for preventing or controlling infestations include sprays, low temperatures to inhibit or kill insect activity (40° to 50° F.) and heat (120° to 130° F.) to destroy the infestation. Fumigation as a combative measure is good but only experienced men should practise it as it can be hazardous.

(Extracted by C. G. Caldwell.)

GNATS—AN ECONOMIC PROBLEM

Scottish Scientists Undertake Research

by

L. Roberts

Gnats are more than mere tormentors. They constitute an economic problem and a real menace to health. In the Western Highlands of Scotland which has been invaded by these insects, farm work, as a result, has been brought to a standstill in many places. On other occasions labourers could only continue work in the fields when protected by Army gas masks. The hotel industry views the swarms of gnats with apprehension, and holiday-camps have now and then had to be broken up early in the season. During World War II some military camps even had to be transferred from the plague-spots to other districts.

The Department of Health for Scotland has decided that it is now time to treat stinging-gnats as an economic problem rather than as a mere annoyance. A committee has been set up for research into the extent of the infestation, the gnats' life-history and the chances of taking active measure against them. Sir Alexander S. M. Macgregor is chairman of this advisory committee, which includes three of the best Scottish University entomologists, a professor of zoology and a professor of pharmacology.

The Scottish scientists have approached their task with thoroughness and self-sacrifice. To obtain data on the adult gnat's stinging habits, the human "guinea pigs" submitted themselves 41 times without protection to a half-hour offensive from swarms of the insects during their "high season" (July to September). The intensity of the attack was found to be 150 stings per person, per hour, and the commonest and most virulent type among the 15 species recognised in Scotland—all of them of the genus

Culicoides—was found to be *Culicoides impunctatus*.

ECONOMIC IMPORTANCE

Six thousand gnats were also collected, of which 96 per cent. were found to belong to this one species. They also attack cows and it was noted that on one cow there were 100 gnats. Previously the economic importance of this feature had scarcely aroused attention; the committee confirmed, however, that horses attacked by gnats can also suffer to the point of exhaustion and heavy attacks on cows lead to a noticeable reduction in milk yield.

The gnat's life-history resembles that of many other insects. The female lays its eggs in damp soil, rotting vegetation or water, and the larvae appear in a few days or several months—white maggots which have a relatively long life and frequently hibernate. The pupae become fully-fledged, six-legged gnats in a week.

Careful research showed that the number of larvae in the soil can be enormous, sometimes 4,500,000 to 7,000,000 per acre. It was difficult to calculate the number of fully developed gnats within a given area as the insects could only be captured when actually in flight. About 54,000 per acre were estimated, but this figure, no doubt has been placed too low.

In such circumstances, it is clear, that offensive action can only be taken when the breeding-grounds are relatively small in extent and that at present one has to rely on defensive measures. The Scottish committee, in fact, has devoted much time to a thorough study of all possible defensive measures and the published results

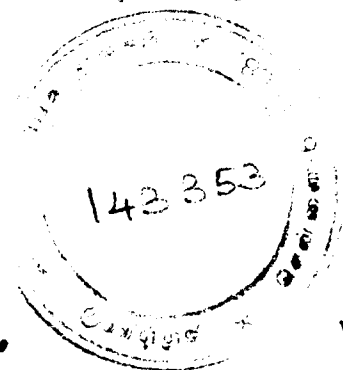
should be of great importance to many countries. The experiments show that a skin-cream containing 40 per cent. by volume of di-methylphthalate (known as D.M.P.) is very successful as a repellent, but its effect is lost if the percentage of D.M.P. is less.

SUCCESSFUL DEFENCE

A head-veil impregnated with D.M.P., and completely covering the head, has also been tried with success. Impregnation is easily carried out by immersing the veil in a solution of D.M.P.

This method is strongly recommended, having distinct advantages over the use of skin-cream. The cream loses its effect in two or three hours while the head-veil is effective for five or six days after impregnation, even up to three weeks, if it is kept in a closed container when not in use.

Sir Alexander Macgregor has now announced that his committee is turning its attention to the problem of a large-scale offensive against the plague of gnats. Millions of people all over the world, who suffer through these insects, will follow his reports with great interest.



VIRTUES OF INDIAN VILLAGE LAYOUT

The advantages of this simple method of suburban expansion are many. First the village-like layout would symbolise its escape from European isolationism; second, it could be easily adapted to suit the needs of growing Indian family groups; third, it would encourage a real economic saving by enabling larger and better houses to be erected. The present official type of building layout is practically unalterable once the houses are erected, but the proposed layout would give ample scope for extensions and improvements to houses, especially when two building plots can be taken together. One of the outstanding distinctions between European and Indian family life that should readily impress us is that, whereas only few Europeans possess hereditary homes even among the rich, this tends to be the rule in India even among the poor. As one lives and learns, it becomes ever more apparent that house pride and family pride, though sometime expressed differently, are fundamentally the same both in east and west. Indeed, surely the present English garden city movement is not only an escape from the nineteenth century by-law streets into a better environment but also an attempt to renew those essentials of the large family life and sociability that still exist in India.

(Sir Patrick Geddes in India)

ALCOHOL AND CIRRHOSIS OF THE LIVER

by

Russell S. Boles

This is the third of the series of seven articles on the subject, which we have pleasure in publishing by the courtesy of *Hygiea, The Health Magazine*. The first two articles appeared in the October and November, 1948, issues of *People's Health*. In the first article, a plea was presented that first and foremost, the public must change their present *moralist* attitude towards alcohol to the *medical* attitude. There is, however, a tendency on the part of the authorities also to emphasise the moralist attitude in the matter. The sooner this mentality is changed, the better. Again, the authorities in the Madras Presidency, where total Prohibition has been introduced, not only emphasise the moralist attitude, but also assume the role of the conscience-keeper of the people. This is not right. Even in Independent India, those in authority, cannot assume the role of the custodians of the moral conscience of the people. What the authorities should do is to understand the position correctly and thereafter to emphasise the medical aspect of alcoholism. The authorities should provide every medical facility in the hospital to enable addicts who suffer from the evil effects of alcoholism to get themselves cured of it. On the other hand, in certain individuals, irrespective of caste, creed or colour, it may be found indispensable, in the interest of their health, to permit the consumption of a moderate amount of alcoholic drink as prescribed by their doctors. In such cases, the Government have no right to impose their misconceived notions on morality to the prejudice of their lives. After all, the authorities should remember that the last word on alcoholism has not, as yet, been said by competent authorities. If the authorities had understood the problem in all its bearings, they would not enforce total Prohibition on all persons indiscriminately and assume the role of custodians of the moral conscience of each and every individual.

Ed., P.H.

Cirrhosis is a disease that first causes enlargement, and later shrinking and hardening of the liver. The disease was known to the ancients some two thousand years ago but up to the present its cause remains obscure. Strictly speaking, it is incurable although in its early stages it may be arrested by appropriate treatment. In its late stages it leads to an accumulation of fluid within the abdomen. If it is not recognized and properly treated cirrhosis progresses to a fatal termination within two or three years.

The symptoms of cirrhosis in its early stages are vague and not unlike those frequently found associated with other diseases. For this reason the condition is often not recognized until some enlargement of the liver has taken place. The symptoms may be nothing more than impairment of the appetite, a sense of fulness or discomfort after meals, nausea at times and constipation. As the disease develops, the patient loses weight and notices an enlargement or distention of the abdomen that is associated with a feeling of heaviness. At times hemorrhoids appear which may cause some bleeding.

Matthew Baille, a famous English physician in the eighteenth century, commented on the frequency of cirrhosis in hard drinkers. Although he said he could see no connection between hard drinking and the disease, it has been generally assumed since his time that such was the case. Because of the tawny dark color of the liver it was called cirrhosis in 1926 by Lænnec, a French clinician. At the present time Lænnec's cirrhosis is commonly alluded to as "alcoholic cirrhosis," despite the fact that precisely the same disease is observed in non-alcoholic patients.

A great amount of experimental work and has been devoted to ascertaining the cause of cirrhosis. Because the cause is so poorly understood, the results of the experiments on the

believed to be the result of various poisons and infections. Of the poisons presumably causing cirrhosis, alcohol, of course, has always claimed first attention. It has been regarded by many as a specific cause of the disease. Certain parasites are thought to be at fault as well as such nutritional deficiencies as a lack of protein and certain vitamins in the diet.

In recent years, there has been an increasing tendency to challenge the effect of alcohol in the development of cirrhosis. While it is generally recognized that the disease is conspicuously associated with chronic alcoholism, the assumption that alcohol is the direct cause of it is a highly debatable point.

An impartial analysis of the information available on the subject forces one to acknowledge that cirrhosis of the liver is relatively uncommon in heavy drinkers, popular impression notwithstanding. The fact that only one out of every twelve chronic alcoholics develops the disease requires us to consider something besides alcohol as a cause of the condition. Obviously, it would be unreasonable to deny that some sort of relationship exists between alcohol and cirrhosis when one considers the frequency with which the disease occurs in inebriates or those who drink to excess compared to those who drink little or not at all.

At this point one may ask, what is an inebriate? In scientific circles he has been defined as "an intemperate drinker whose behaviour is definitely affected by frequent intoxication." The poet defines him as follows:

*Not drunk is he who from the floor
Can rise alone and still drink more;
But drunk is he, who prostrate lies,
Without the power to drink or rise.*

In less erudite circles the term may better remain undefined.

For years many attempts have been made experimentally to produce cirrhosis in animals by the administration of alcohol. Almost

without exception such experiments have failed although they did cause an increased amount of fat to be deposited in the liver. This indicated it had been irritated or inflamed. It is interesting to observe that fatty changes occurring in the liver of animals given alcohol are made worse if the animals are kept on a high fat diet during the experiments. On the other hand it has been shown that if the animals were given a well balanced diet, the liver remained normal despite the administration of large amounts of alcohol. Actual cirrhosis cannot be produced by alcohol in animals, therefore, unless they are kept on an improper diet or unless there is given, with the alcohol, such substances as carbon tetrachloride, or tar products that are known to irritate the liver. Judging from experimental work it may be assumed that alcohol in moderation will not injure the liver of a healthy person unless he is eating a poorly balanced diet or has already suffered some damage to the liver from previous infection or from some other poisons.

Other interesting observations on the effect of improper diet have been made in experiments conducted in studying the cause of cirrhosis. One of the most important of these showed that definite injury to the liver results from a diet deficient in the vitamin B complex and protein. Inasmuch as a chronic alcoholic lives more on his alcohol than on nourishing foods, the experimental studies previously referred to would indicate that his meager diet, with its low content carbohydrate, protein and vitamins, might logically be the cause of his cirrhosis. In other words, it is not so much what one drinks, but what one fails to eat when drinking, that determines the harm. The favorable results reported recently on the treatment of so-called alcoholic cirrhosis by a well-balanced nutritious diet and additional vitamins affords interesting confirmation of the results of the experiments mentioned.

It has been demonstrated in the human being that the liver is deranged in cases of acute alcoholism. Sir Arthur Hurst, a brilliant English physician, believed that while the habitual excessive use of alcohol leads to chronic inflammation of the liver, recovery takes place when the alcohol is stopped. He believed that young men and women who indulge in cocktails daily for three and four days a week may develop "alcohol hepatitis," exhibiting a sallow complexion, a loss of appetite, irritability and a tender, slightly enlarged liver. I do not believe Hurst was overestimating the effects of acute alcoholism on the liver. I have always been suspicious of some impairment of function of the liver in individuals who cannot tolerate small amounts of alcohol without suffering such ill effects as headache and drowsiness or a so-called bilious condition.

In addition to alcohol, certain infectious or toxic agents originating in the intestinal tract have also been suspected of causing cirrhosis. At the moment it is believed that cirrhosis may be the consequence of inflammation of the liver caused by virus infections and by transfusions of blood plasma. During the war and since, when vast amounts of blood plasma were used in transfusions, it was discovered that yellow jaundice followed these transfusions in some patients. Such an unfortunate result meant that the liver had been inflamed and in some cases cirrhosis might develop. The excessive use of alcohol naturally would favour such a development. It is possible that sensitiveness to such substances as egg white, or other foods to which a person is allergic, might cause cirrhosis.

Because doctors are aware of the difficulties involved in drawing conclusions from experiments, regarding the role of alcohol in the development of cirrhosis, exhaustive studies have been made of the liver and other organs in large numbers of cases when postmortem examination have been performed. At the Philadelphia

General Hospital nearly 12,000 such cases were studied in recent years. Cirrhosis was found in over 600, or about one-twentieth of the cases examined. In only one-third of these had there been a history of excessive drinking by the patient. In other words, nearly two-thirds of those who had had cirrhosis had not been addicted to alcohol as far as could be determined.

As cirrhosis takes years to develop it is not a disease seen as a rule in young people. Among the 12,000 post-mortem examinations, it was observed that it occurred mostly in those between 40 and 80 years of age, the highest number being between 60 and 69. Of particular interest is the fact that over a period of thirteen years, from 1933 to 1946, it could be shown that the disease definitely increased in younger people, especially those in the fourth and fifth decade of life, as the study progresses. Such a tendency, should it continue, might prove a matter of some concern. Whether an increasing consumption of alcohol on the part of younger persons may have anything to do with this remains to be determined.

An analysis of the number of males and females with cirrhosis showed that the sexes were equally affected in those between 40 and 49 years of age. In older persons more males were affected than females.

Cirrhosis was shown to be almost four times as common in the white race as in the Negro race. The ratio of males and females affected was approximately the same in the two races.

It is unfortunate that a more careful history is not available concerning the use of alcohol in all patients, regardless of their disease. If cirrhosis is suspected in a patient, inquiry is usually made concerning the use of alcohol. If chronic alcoholism exists one may be sure a diligent search for cirrhosis will be made. In between these two extremes relatively little attention is given the matter. For this reason accurate data concerning the role of alcohol

in cirrhosis is difficult to secure. There is reason to suspect that the frequency of cirrhosis would be greater than present investigations show were it possible to secure the truth about the drinking habits of the people affected.

In recent years the treatment of cirrhosis has been based on the presumption that nutritional deficiencies play a large part in its production. Considerable relief of symptoms, prolongation of life and apparent cures have been claimed when such deficiencies are corrected and when alcohol is eliminated from the diet of those who have been using it to excess.

If it would be unfortunate for anyone to gain the impression that alcohol is blameless in the development of cirrhosis. Certainly it must be much to blame in some persons. This being the case, it would behove the medical profession to discourage any attempt to minimize the importance of alcohol, as a contributing factor, if nothing else, in the production of the disease.

In summing up the evidence in the case of alcohol and cirrhosis of the liver, it is essential to bear in mind that the type of cirrhosis which is generally attributed to alcohol is also commonly observed in chronically malnourished children and in large groups of people, such as the Hindus, who do not partake of alcohol. While it is recognized that alcohol may play a role, and perhaps a predominating one, in the cause of cirrhosis, it would seem unreasonable to question the fact that other agents appear to be actually responsible for the disease.

Opinions on the relationship of alcohol and cirrhosis of the liver are quite apt to change during the coming years as the result of continued extended research on the many complicated problems associated with chronic alcoholism. At the moment the opinions that have been expressed are based on abundant experimental study, postmortem examinations and intensive investigations dealing with the response to various methods of treatment.

INCREASED FOOD PRODUCTION

by

M. S. Sivaraman, I.C.S.



Increasing our food production is the crying need of the hour. Every one is, in duty, bound to co-operate with the drive for the production of more food. The author has certainly given careful thought to the subject. It deserves to be read by one and all interested in it.

—Ed., P.H.

Production, more production and maximum production is the slogan now. Increased production has been described as a national duty in the present day. It is considered as the supreme need of the hour. Some aspects of the problem of agricultural production were analysed lucidly in a recent broadcast by Mr. M. S. Sivaraman, I.C.S., Director of Agriculture.

He said: "How shall we increase our food production? With war three years in retrospect, we still find ourselves in want of our basic cereal requirements, let alone protective foods such as eggs, milk, meat, vegetables and fruits. A war, an increasing population without an increasing food supply and unfavourable seasons, have all combined to produce an exceptionally acute

food shortage. Attempts have been made to tackle it through various approaches; by imports, by extending cultivation to submarginal lands, by intensive cultivation of food crops and by more equitable distribution of the available supplies.

2. It is an irony that a tropical country like ours should have to seek for food supplies from countries less favoured by nature. Imported supplies may help to tide over the present crises but the basic remedy lies in a reorientation of our national agricultural, industrial and economic policies, in improving agricultural production and simultaneously increasing the purchasing power of the masses so that they can 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 several times the area necessary for raising cereals giving the same amount of food energy. As the area of profitable cultivation in the province is limited, no general improvement on the nutritional standards can be brought about unless the yield of cultivated land is increased appreciably.

4. The problem of improving agricultural production is a complex matter involving not only agricultural technique but also different aspects of our social and economic life such as systems of inheritance, tenures, transport, marketing, credit, etc. All the various forces that tend to adversely affect agriculture, have to be surveyed and eliminated. The farmer's problems are really the nation's problems and the State has to step in to create the necessary atmosphere for stimulating the maximum of economic production from every acre of land.

FACTORS IN PRODUCTION

5. Granted all this, agricultural production itself is an uncertain element. It is a function of different variables such as manures, soils, cultural practices, seeds, water-supply, climatic conditions, pests and diseases and other environmental factor each of which may be as important as any of the others depending on the quantity, time and duration of its incidence in the several stages of plant growth. In the present state of our knowledge, some only of these variables can be changed for the better. I shall confine myself in this talk to soil fertility and organic manures which are fundamental factors affecting food production and suggest tackling them through ways which are within the powers of every cultivator.

SOIL

6. It must be remembered that the soil is not a static mass. It is a dynamic living organism subject to constant physical, chemical and bio-

logical changes which essentially determine its fertility. The soil is the home of myriads of micro-flora whose vital activity helps to disintegrate the remains of dead plant and animal matter into a spongy amorphous mass called humus which again is slowly changed by other bacteria with the incidental formation of plant nutrients like ammonia and nitrates. There is a constant resurrection of dead matter which goes on continually in the soil under favourable conditions.

7. The presence of humus in sufficient quantities in the soils 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. The first task of a successful farmer is, therefore, to keep up the life cycle in the soil and maintain and improve its humus content. 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 crops for its humus content and this in turn leads to the formation of just enough plant nutrient to keep up a low-turn. 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.

8. Humus production and crop production cannot go on simultaneously in the same land in the absence of sufficient moisture and nutrients. Humus has, therefore, to be produced separately before applying it to fields on which rainfed crops are raised. All organic matter can be converted into humus with the help of soil bacteria by composting it in shallow pits not more than 2 feet in depth. For this purpose the leaves and agricultural wastes are placed in pits and moistened with the addition of wood ash and a small quantity

of cattle dung mixed with water. The contents of the pits should be turned over after fifteen days and once a month thereafter. Artificial farm yard manure can thus be produced in three months time. Such careful husbanding of all organic wastes is the secret of success of the Chinese farmers who have kept up the fertility of their soils at a remarkably high level for over four thousand years.

9. In respect of irrigated paddy lands, the problem is simpler: for green leaves and organic matter can be applied directly to the fields. Innumerable experiments in the Agricultural Research Stations and on ryots' lands all over the Madras Province have shown that green leaves constitute the main bulky organic manure needed for paddy fields. Application of green leaves ranging from 4,000 to 6,000 pounds to an acre has increased the yields from 25 to 45 per cent. For this purpose quick growing shrubs have to be raised all over the countryside, along the sides of roads, railways, canals and tanks, on waste lands and in all places which are not put to a more profitable use. Green manure crops like Sunnhemp, *Daincha*, *Sesbania Speciosa*, etc., should be grown on paddy lands wherever possible after the harvest of the paddy crop. An acre of *Sesbania Speciosa* may yield as much as one lakh of pounds of green matter in five months sufficient to manure 25 acres of paddy fields. A *Glyricidia* stump planted on a canal or field bund will produce 40 lb. of leaves in the first year and 300 lb. every year after three years. Unless we produce more leaves and organic matter and apply them directly to wet fields or compost and use the artificial farm yard manure on dry fields, there can be no permanent solution of the food problem. Every ryot has, therefore, to take up seriously the production of more plants, shrubs, leaves and green manures in every possible area without detriment to his cultivation. Where green manures can be raised on the fields, the ryot has to learn to produce his seed requirements by

setting apart, if need be, a part of the cultivated land for the purpose. If, by sacrificing one cent of land to produce green manure seeds, sufficient green manure can be raised on an acre and thereby the yield of paddy can be increased by over 20 per cent, surely this sacrifice of one cent is worth it. If, by planting 15 cuttings of *Glyricidia* on the bunds of paddy fields, the ryot can get his manure on the spot, surely the practice should be taken up at once.

IMPORTANCE OF MANURE

10. In order to intensify production every farmer has to learn to be a chemical manufacturer employing countless millions of bacteria as willing workers in his field factory. Increased food production depends largely on increased production of manures and the possibilities are very great as nearly 80 per cent of the cultivated lands is not manured at all. Substantial increase in the acre yields, leads to greater output of cereals. More cultivated lands can then be released for larger production of protective foods and industrial crops so essential for a balanced abundance in the country. The Madras Department of Agriculture has started an all-out drive to plant quick growing shrubs, to spread green manures and to collect and supply free to all ryots seeds and plant materials of several trees of economic importance. Once the cultivators' enthusiasm is roused and his co-operation secured, we can confidently hope for striking progress towards the solution of our food problem."

COMPOST MAKING

At the instance of Sir Datar Singh, Vice-Chairman of the Imperial Council of Agricultural Research, who returned to Madras after a tour to some places in South India, the Director of Agriculture, Mr. M. S. Sivaraman, I.C.S., convened a conference of some Heads of Departments on Sunday, the 18th April 1948, at which questions connected with the manufacture

and distribution of compost as manure were discussed.

Sir Datar Singh, in the course of his remarks, stressed the value and importance of compost as manure particularly in view of the great need for augmenting the food production in the country. He explained the Government of India's scheme for promoting the production and distribution of compost and the financial and technical assistance they will be prepared to offer the Provincial Governments in the execution of their schemes.

It was pointed out that in the Madras Province, the Urban Compost Scheme has been in operation since 1944; but during the last three years, i.e., 1945-46, 1946-47, 1947-48, both production and distribution of compost had been progressively increasing but production was still below the target. One of the bottlenecks in compost distribution was the transport from the place of production in the urban areas to the villages where it is needed. As regards production, some of the municipalities did not have the necessary space where the town refuse could be dumped for transformation into compost. The absence of a suitable agency to co-ordinate the work of the Agricultural, Public Health and the Local Administration Departments, which was essential if the scheme has to work successfully, was another handicap. Propaganda among the villagers for popularizing the use of compost in order to induce them to use it in large quantities would also probably be required on a larger scale to get them to increase their use of compost.

In this connexion the following note which explains the working of the compost schemes in Madras Province will be of interest:

There are two Compost schemes in operation in Madras Province, viz., the Urban Compost Scheme and the Village Compost Scheme:

I. Urban Compost Scheme.—There are in all 1,012 towns containing a population of 5,000

and above, with a total urban population of 12.215 millions (1941 Census) in Madras Province. By systematic collection and utilization of all the refuse material available in the above towns, it would be possible to prepare nearly 12 lakhs tons of manure per year. Out of the above 1,012 towns, 87 are municipalities and all the others are panchayat boards. Since these bodies generally maintain staff for the collection of urban refuse, it would be possible to extend the Urban Compost scheme so as to cover all the above towns.

The Urban Compost scheme was started in Madras Province in 1944. In 1944-45 the number of compost centres was 23 and the amount of compost produced and distributed were 41,300 tons and 5,400 tons respectively while in 1946-47 the number of centres increased to 113, and the amount of compost produced and distributed rose to 80,720 tons and 58,200 tons respectively. In 1947-48, it is estimated that the production would go up to 100,000 tons of which 78,000 tons is proposed to be distributed.

It would be noted from the above figures that the Urban Compost scheme has remained at a stationary level in Madras Province during the last 3 years, while other Provinces like U.P. and C.P. have doubled and trebled their production at the same time.

If a Compost Development Officer be appointed to supervise the working of the scheme, it is felt that the production can be raised from the present level of 100,000 tons to a level of 200,000 tons within a year. The ultimate target is 10 lakhs tons per year. After the above officer is appointed, he may be asked to make a survey and prepare a detailed report indicating the difficulties met with at present by municipalities in expanding production and distribution of compost. He should prepare a three-year plan of development, so as to cover all the urban areas (1,012 towns) in the above period; and in the light of this Report, a suitable revised

scheme of Urban Composting may be prepared, making provision for all help needed by municipalities in operating the scheme by way of:— (a) grant of loans or advances for purchase of carts or trucks for refuse collection; (b) expeditious acquisition or vesting of land required for Compost Depots; (c) grants or loans for undertaking Compost production; and (d) help needed to market the manure produced either in trucks maintained by the municipalities or through local co-operative societies or agricultural organizations.

II. Village Compost Scheme.—The Scheme is in operation at about 2,300 village centres and subsidies are offered for digging of pits and filling up the same with manure. The scheme was sanctioned by the Madras Government towards the end of 1944 (G.O. No. 4675, Development, dated 1st November 1944), but actual work of digging pits, etc., started only from August 1945. The quarterly reports sent in by Madras Government show that about 5,000 to 6,000 pits are in operation and about 50,000 tons of manure are prepared per year.

The present scheme is not prepared on comprehensive lines so as to indicate (a) the average quantity of manure prepared per village at present (say, in terms of number of cubic feet of manure per head of cattle maintained in the village, as determined from data for villages selected at

random from each district of the Province), (b) the proportion of refuse and other waste material not collected in the villages, but allowed to go waste; (c) the average proportion of cattle dung used as fuel in the villages; (d) the average chemical analysis of manure prepared in villages, with special reference to the conservation of cattle urine for increasing the nitrogen content and improving the quality of manure prepared in villages; (e) scope for preparing extra manure from farm litter, forest leaves, water weeds, etc.; (f) scope for tree planting in villages, with a view to preventing the burning of cow-dung as fuel.

There are about 34,800 villages in Madras Province, with a total rural human population of 370 lakhs and a total cattle population (cows, bullocks and buffaloes) of about 226 lakhs. This works out to an average of about 1,050 humans and 650 bovines for each village. Taking two-thirds of the bovines to be adults, it should be possible to prepare about 50,000 to 60,000 cubic feet of manure (about 1,000 tons) for the average village, by complete utilization of all the refuse materials available locally. Statistics are not available to show the present quantity of manure prepared in the average village at the present time, but it is likely to be only about half the above figure.

By Courtesy—Madras Information, A.I.R. Madras

PUT YOUR SHOULDERS TO THE WHEEL

On the basis of India's average annual production of the principal foods, the Advisory Board of the Imperial Council of Agricultural Research has recommended that to provide a suitable balanced diet in minimum quantity for the 400 million people of India, the production of foods must be increased as follows:

Cereals	by 10 per cent
Pulses	by 20 "
Fats & Oils	by 250 "
Fruits	by 50 "
Vegetables	by 100 "
Milk	by 300 "
Fish and Eggs	by 300 "

(Government of India)

FROM EVERY WHERE



WHAT DO THEY SAY ABOUT IT?

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

A SKIN ERUPTION DUE TO MITE-INFESTED TOBACCO

—Rockstad, I, *Nordisk Med.* 1945, Aug. 3, v. 27, No. 31.

Twelve women working in a Norwegian tobacco factory developed an itching red papular eruption; in one case it covered face, neck, thorax and flexor aspect of arms, while in the remaining cases it was limited to the face and neck or between the fingers. The work, which was very dusty, consisted of emptying cases of tobacco spoilt during storage. The eruption appeared on the first day of exposure to the dust, and passed off from two to seven days after the work was discontinued. The general clinical picture resembled a previous outbreak which had been traced to figs infested with mites, and examination of samples of the spoilt tobacco showed that it contained mites in large numbers. When mites were rubbed into the skin of 22 subjects (8 cases of eruption and 14 normal

persons) a red papular eruption appeared after 48 to 72 hours in seven of them (3 eruption cases and 4 normal subjects). The author was able to show that the eruption was not due to sensitivity to tobacco, but was probably due to some unknown toxic substance in the mites. It was not possible to identify the mites; two kinds were present in the tobacco.

—D. J. BAUER.

VITAMIN CONTENTS IN SWEET POTATOES

Pearson, P. B. & Luecke, R. W. *The B. Vitamin Content of Raw and Cooked Sweet Potatoes, Food Research Campaign*, III, 1945. July-Aug., V. 10, No. 4.

Thiamin was estimated by a modification of *Phycomyces* method (Hamner, Stewart and Matrone, *Food Research*, 1943, v. 8.444) and riboflavin, nicotinic acid and pantothenic acid by microbiological methods. Several roots of

What do they say about it?

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each of four varieties of sweet potatoes were studied and only in the case of nicotinic acid was there any definite varietal difference. The average values in mgm. per 100 gm. raw sweet potato were thiamin 1.39, ribo-flavin 0.46, nicotinic acid 5.56 and pantothenic acid 10.95. Boiled sweet potatoes retained almost all the original B vitamin potency, but baked potatoes lost 12 to 25 per cent of the different factors.

When sweet potatoes were sprouted in about 8 ins. of clean sand, there was a slight loss of thiamin from the tubers, but the content of the other B. vitamins remained unchanged. The shoots contained approximately the same amounts of riboflavin, nicotinic acid and pantothenic acid and slightly less thiamin than the original tubers.

—A. M. DOPPING.

EFFECT OF LARGE SCALE METHODS OF PREPARATION ON VITAMIN CONTENT OF FOODS

(*J. Amer. Dietetic Ass.* 1946, Feb., V. 22, No. 2.

Determinations of ascorbic acid, thiamin, riboflavin and nicotinic acid were made on samples of mashed, steamed, boiled and baked potatoes immediately after cooking, and again after being kept hot for varying periods. The values obtained are compared in tables with those of the peeled and unpeeled raw potatoes, and a statistical analysis is given. The vitamin content of different samples of raw potatoes showed considerable variation: riboflavin and nicotinic acid were found in greater concentration in the outer layer of the potatoes.

Keeping peeled raw potatoes in water in the refrigerator for some 22 hours resulted in very little loss of the vitamins studied. Destruction of ascorbic acid was marked with each of the four methods of preparation, and a further notable destruction occurred during the period when the vegetable was kept hot after cooking.

Ascorbic acid was also lost during mashing of steamed potatoes.

Potatoes steamed or baked for 1 hour showed little loss of thiamin or nicotinic acid; increasing the time of cooking led to a significant loss of both vitamins. Boiled potatoes lost a large amount of these two vitamins into the cooking water.

Maximum retention of the vitamins examined was obtained by steaming the potatoes, and next by baking them in their jackets for the shortest possible time. Potatoes should be eaten as soon as possible after cooking.

—H. E. HARDING.

RATS AND THEIR CONTROL

Rat life is especially favoured by a number of factors prevalent in Hawaii, where four (named) species are recorded. Of the rat-borne diseases, bubonic plague, endemic typhus fever, infectious jaundice (leptospirosis), and trichinosis are considered to be the most frequent and dangerous. (The abstracter adds as notable omissions, food poisonings due to contamination of food with *Bact. typhi-murium* and *Bact. enteritidis*, organisms commonly found in rats.) The monetary loss is believed to be large and affecting produce, young animals, and fire hazards. Rat habits appear similar to those in England.

Estimates based on trapping methods indicate an average of 70 rats per acre in large areas of cane land. "Control measures described are ratproofing, trapping, poisoning, shooting, gassing and the activities of natural enemies, e.g., the mongoose. The importance of ratproofing is stressed." A lengthy list is given of common faults in houses which attract rats and encourage harbourage. The open garbage can is strongly condemned. The snap trap (breakback trap) is better than the cage trap. Common baits are named. Soft bait should be wrapped in cheesecloth and tied securely to the trigger of

the trap. Traps should be placed along rat runways.

(Glover notes that no reference is made to the rat's shyness of new objects and the need to place the trap in position, baited but unset, for 4-5 days to overcome this new object reaction. Poison bait is regarded as more effective than trapping. Reference is made to prebaiting for several days with unpoisoned bait until the rats become accustomed to visit and feed in these situations, after which the poisoned bait should be substituted.)

Dead rats, before being handled, should be sprayed copiously with kerosene or household insecticide, or boiling water poured over the bodies to kill the fleas, the chief risks being plague and typhus. Instructions are given for building a rat crusher for mass trapping, using a heavy wooden door or plank with one end raised a few inches off the ground and a trigger-catch to be sprung by rats nibbling at the bait, when the door falls and crushes them. The booklet is well illustrated. (The abstracter notes omission of reference to the "recent work of the Bureau of Animal Population, Oxford University, because no reference is made to poisoning prejudice, the use of post-baiting to ascertain the completeness of a kill and the desirability of changing both bait and poison in a second poison campaign," and overlooking the importance of the rat's shyness of new objects, including both food in new situations as well as trapping.)

—EMERY, RHAYHURST.

(From "Public Health Engineering Abstracts" Vol. XXV.)

WEATHER FORECASTS BASED ON PLANETS ?

The fact that daily weather analysis and forecasts must be based upon synoptic meteorology is recognised in the official meteorological services of all civilized countries. Weather forecasts based upon the phases of the moon

or the direct influences of planets or other astronomical bodies have been tested again and again and found to be as lacking in justification as those based on the weather of a particular day, such as ground-hog day or St. Swithin's day. Although tendencies toward certain periodicities or cycles have been discovered by investigators, none of these have so far proved to be sufficiently constant and definite to furnish a basis for specific daily weather forecasts. Most of the day-to-day forecasts for a year or more, like those printed in calendars and almanacs, are without scientific foundation and fail to stand the test of impartial comparison with the actual weather. Many such predictions are no better than a random guess. Yet a surprising number of persons still think that almanac forecasts are reliable.

(Extract from "Climate and Man" Agricultural Yearbook U. S. Dept. of Agriculture 1941.)

TWO PHASES OF EPIDEMICS

Epidemics have a negative as well as a positive phase. The positive phase may be defined as that related to the spread of infection and is indicated by persons made ill or found to be infected; the negative phase is that related to the paucity or absence of infection and is generally indicated by non-cases. Frequently, clues as to the cause of an epidemic, which are difficult to follow in the positive phase, may readily be developed from the negative phase. This is especially true if environmental factors are involved. When the correct solution is found, the positive and negative evidence should complement each other, presenting a complete story of the epidemic.

(Arthur E. Gorman, A.J.P.H.)

LEPROSY REDUCTION AND MORTALITY

"The most likely solution of the problem was suggested to us in conversation by Professor

Sigerist, who connects the disappearance of leprosy with the immense mortality that occurred at the time of the Black Death and its secondary waves. When the plague struck Europe, with its dreadful destruction of human life, immense numbers—perhaps the majority of lepers had been segregated in institutions, which thus represented a concentration of relatively susceptible and weak groups. It is not impossible, as Dr. Sigerist suggests, that most of the lepers of Europe were wiped out by the plague, and that the few who survived were too scattered and represented too meagre a spark to revive the disease. This seems especially likely in view of the relative non-contagiousness of leprosy the manner of transmission of which we do not yet understand, but about which we know that prolonged and intimate contact alone gives rise to new cases".

(Extract from "Rats, Lice and History" by Zinsser.)

PUBLIC HEALTH ADMINISTRATION

The Sanitary Aspects of Commercial Laundering. Dept. of Research and Textiles, Amer. Inst. Laundering, Joliet, Ill., Serv. Bul. No. 53.

The bulletin summarizes a 2-year study of the efficiency of both home and commercial laundry methods in destroying and removing bacterial accumulations. Various methods and formulas and their efficiency on various items and fabrics are studied. Results of tests are indicated in 14 tables and summaries, and explanations are given. This bulletin indicates that commercial laundry methods in general and some formulas in particular are much more effective in destroying and removing bacterial accumulations than home laundry practice.—A. J. Van Breda.

(P. H. Engg. Absts.)

WHY CAN'T I SLEEP ?

IT is not my object in this paper to submit specific advice on an individual problem of sleep.

I hope however that those to whom sleep has become a difficult chore may profit from a few of the suggestions set down here :

1. Consult a competent physician on your health in general. If, after an examination, your doctor tells you he can find no plausible cause for your sleeplessness, accept his opinion with confidence. Do not suspect that he is holding back information from you in an effort to spare your feelings. If he thinks you should take a sedative before retiring take it without fear that it will do you harm or that it will become a habit. No conscientious physician would prescribe medicine to harm you. If he asks you to return within a certain period, comply with his request. Remember that he is trying to help you.

2. Cultivate an agreeable philosophy of life. Don't take your worries to bed. Most people worry about things that do not call for worry and nine times out of ten the problems are not really as important as they appear; most of them solve themselves anyhow. But if you insist that you must worry, remember that you will be able to do so more effectively after you have had a decent night's sleep.

3. You have undoubtedly heard conflicting opinions on whether one should eat, drink or smoke before retiring. No one can tell you how you react; you yourself know. Hunger interferes with sleep. Therefore, if you are hungry, eat. If you are not hungry there is no sense in eating. Some people insist that coffee keeps them awake. There is some dispute about that among doctors, but if coffee keeps you awake do not drink it. If a night makes you tense avoid it; if it helps you relax, it will do you good. It is as simple as all that. If you are of middle age avoid smoking excessively. It is general knowledge among physicians that excessive smoking produces spasm of the blood vessels in some people and results in cramping muscles. These cramps usually occur at night,

although they may occur at any time during the 24 hours. If you are subject to heartburn not due to some organic condition, your doctor will tell you how to avoid it. He may also give you something to relieve it. Place the medicine at your bedside so you can reach for it immediately on awakening. Don't try to sleep it off. If you awaken for any reason in the middle of the night, don't start fighting with yourself: practically every one wakes up one or more times a night. Don't start to fidget and worry that you will remain awake for the rest of the night. You will be surprised to find how simple it is to cultivate the ability of shedding ideas which interfere with your rest. If you find yourself turning in your sleep don't get discouraged. Frequent turning is necessary to keep the muscles from getting "bound". The good sleeper turns from thirty-eight to fifty-three times a night. If you sleep like a log you'll wake up stiff as a board.

4. Learn to relax. You cannot fall asleep with tense muscles. If you like to read in bed do so, and don't let your conscience bother you. You may read lying on your back or on your stomach, whichever is more comfortable for you. Your eyes will not be strained by either position. It makes little difference whether you sleep on an inner spring mattress or just an ordinary mattress. If you relax, close your eyes and keep them closed, you will go to sleep. If you fall asleep immediately after retiring you are an unusually good sleeper. Statistics show that it takes the average person from fifteen to twenty-five minutes to fall asleep.

5. Stop talking about your insomnia. It brings little sympathy and even less help from your

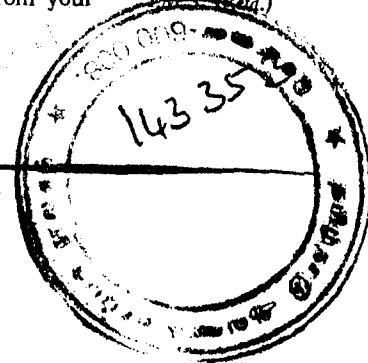
listeners. About all it does for you, or rather to you, is give you a reputation as a neurotic. It has always been a mystery to me why so many people boast about not being able to sleep. At a recent convention a colleague with whom I shared a room in the hotel would get up every morning with the complaint that he could not sleep a wink. In reality it was I who could not sleep because of the noise. My room-mate kept me awake most of the night by snoring.

(Hygeia-the Health Magazine)

THE CHILD AND AFFECTION

Why is affection so vitally necessary to the child? One must remember that the child is in the process of forming his personality, and that his personality is a very important and precious thing to him. He wants to be of value, but he is living in a world in which, to him, everything is constantly changing its value. It is very puzzling and bewildering. His own code of ideals is being constantly modified by what he accepts from others. He is in a state of flux and this makes him uneasy. He wants to be re-assured that he really is of value, and this re-assurance he obtains in the form of concrete manifestations of affection or love. It is useless to expect a child to grasp the concept of love as an abstraction; he cannot fully understand that aspect of the matter. If the child can see concrete evidence of affection in the way he is treated, then as far as he is concerned, affection is present.

(From "Ash The Children" by Lt.-Col. Ford Thomson
I.M.S. (Retd.))



The Hon'ble Sri N. Gopalaswami Ayyangar, Member for Transport, Government of India, in a message to *People's Health*, states:

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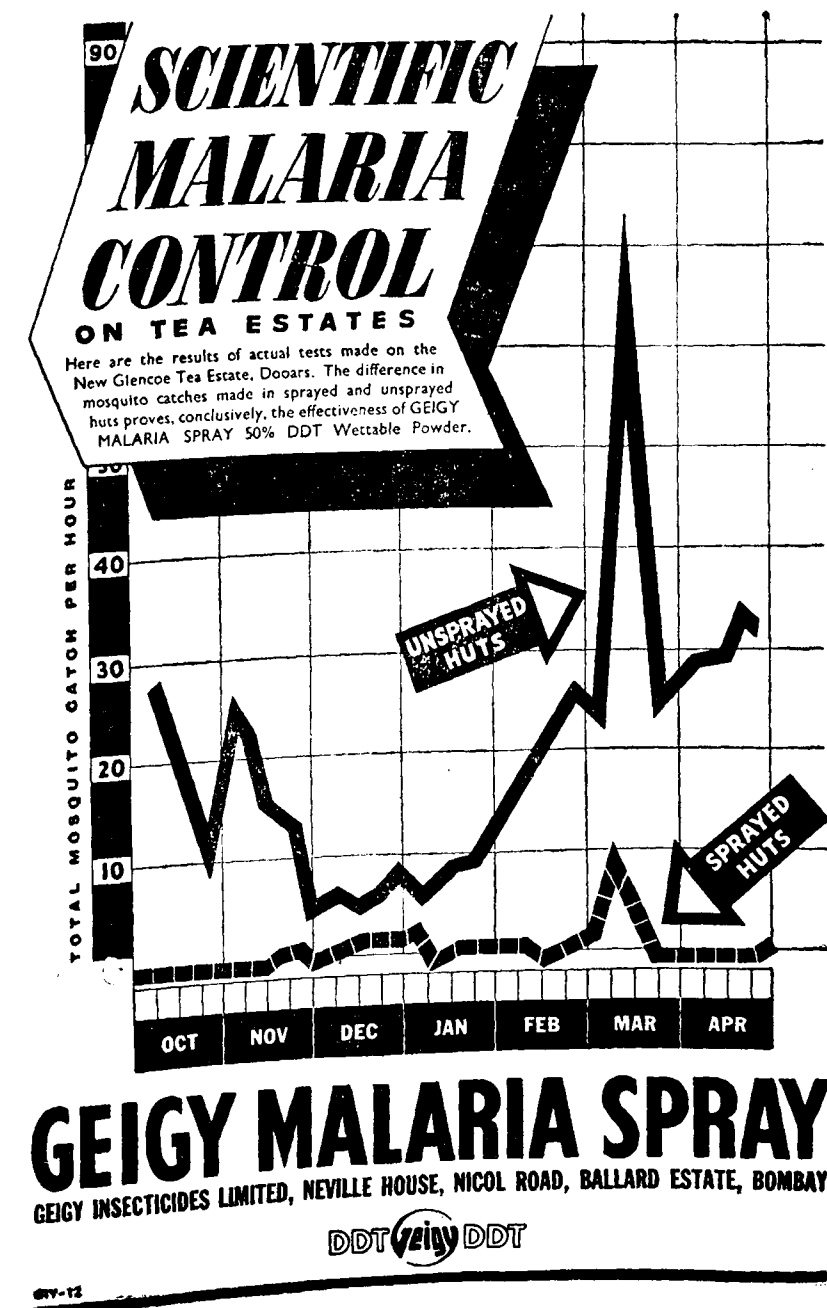
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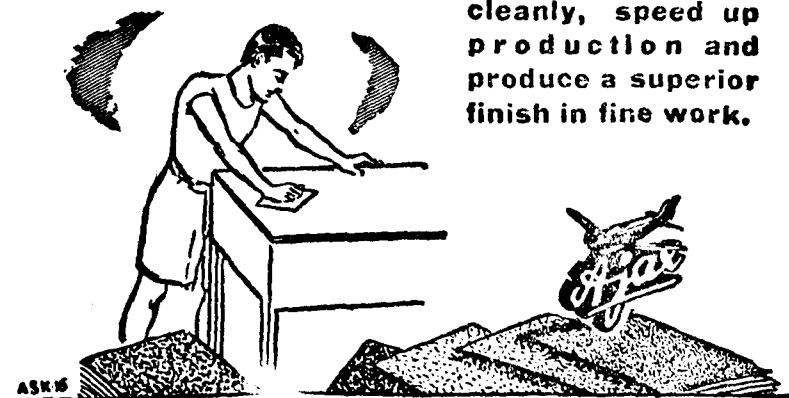
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