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EDITORIAL

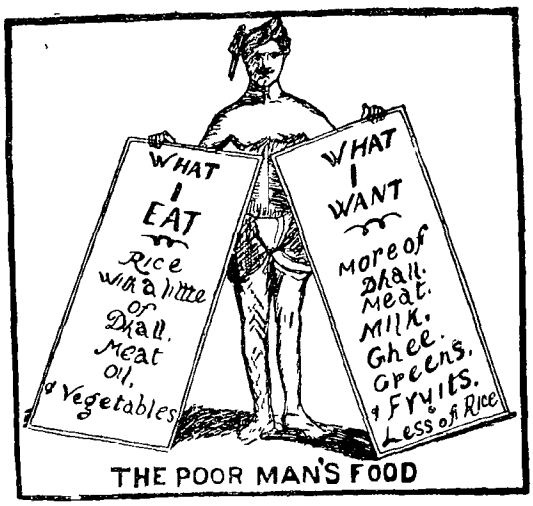
The Madras Slums

There is no country in the world but has its own slum problem to deal with and India is no exception to it. The slums are a disgrace to civilization and humanity and recognizing this, modern nations vie with one another in clearing slums and ameliorating the lot of slum-dwellers. The effort is all the greater in countries like Russia, Germany, Italy and even Great Britain where labour has already begun to assert its rights and actively participate in the governance of their respective countries. In India, labour is inarticulate and disorganized and is politically powerless. Moreover, financial stress and religious scruples add to the complexities of the problem. No wonder, therefore, that the slum problem in this country remains still an unsolved problem.

Coming to slums in the City of Madras, we have three kinds of slum-dwellers *viz.*, (1) labourers employed in railways, mills, factories, workshops, public offices and the like, (2) Adi Dravidas and others, who live in separate huts in low-lying places in and around the city and (3) the beggars who have no homes of their own but convert their temporary abodes on the road-sides practically into slums. As regards labourers, their housing, in our opinion, must primarily be the concern of their employers. Except a few mills and the Madras Corporation which has provided its sweepers and scavengers with housing accommodation, this duty has been shirked by a large majority of employers and the labourers are left to their own fates. They live amidst squalor and dust and in overcrowded houses, their health is shattered, their out-turn of work becomes poor and ultimately, both suffer. It behoves large employers of labour, therefore, to provide their employees with suitable and sanitarily

perfect housing accommodation and deduct from their wages proportionate rents therefor. In this connection a word of caution must be expressed and the mistake that has been committed in England should not be repeated here. In England, rents swallow up a large part of the labourer's income so much so nothing is left for their sustenance. The labourers now suffer from malnutrition and all the maladies connected therewith, where before they suffered from lung troubles due to over-crowding.

"The Medical World" puts the problem of the slums in England in a nutshell and observes: "Mr. Harry Barnes in his well-known book on the 'Slum Problem,' says the rich man's provision of a luxurious mansion is 'only the realization of the Poor man's appetite'. He enlarges his thesis by putting the absolute minimum accommodation for working-class family at a living-room, three bed-rooms, a scullery, larder, coal-store, bath, and W. C. If that is the "minimum" we fear it will be considered the maximum by many a worker's wife who has a lesser ideal. For as a public-health authority has reminded us, the really poor never have been housed decently, and since private enterprise must be governed by economic considerations they never will be, until the rate-paying public is prepared to find a large part of the rent. On this point it is of great medical interest to learn from Dr. McGonigle, the M.O.H. of Stockton-on-Tees, that re-housing may have unexpected consequences. Following the local slum-clearance scheme, he found that the death-rate went up among the families removed to a municipal estate while that of the slum-dwellers left undisturbed remained much lower. His enquiries pointed to a deficient dietary as the cause of this misfortune to the transplanted families and he cites plenty of evidence to show that money formerly spent on food went to pay the high rents of the up-to-date dwellings. The Lord Salisbury who was Prime Minister is reported to have said the housing of the people was the gravest question confronting the Nation, and it must remain so if the abolition of the slums is so deplorably to affect those it is intended to benefit."



As regards hutting grounds occupied by Adi Dravidas and others, the whole trouble lies with the landlords on whose grounds the huts are constructed. Their greed, callousness and indifference are responsible for the miserable plight of their tenants as, under the existing Act, the Corporation is powerless to enforce sanitary measures. These hutting grounds must be acquired by the Corporation, their levels raised, if they are low-lying, roads and drains constructed, water-supply and lighting

provided and plinths erected on which to build superstructure. While it is cheaper to have thatched huts, it is always safer to have tiled sheds, as the danger from fire will then be obviated. We see year after year sad spectacles

of these huts being burnt down by fire, the cause being more often than not, the kitchen fire or the open kerosene lamp. An open court yard in the middle must be an indispensable feature of every house, as otherwise, the air and light which the residents sadly need, will be missed. The cost of a tiled house should not exceed Rs. 500/-all told and no more than two tenants should be accommodated in a house. This will fetch 6%interest, each tenant paying Rs. 1-4-0 per mensem and will prove a safe and sound investment for the Corporation or for any enterprising private firm. Besides, there is a floating population, which infest the City during summer and leave it soon after the first rains, to their villages wherefrom they came. These people have no homes of their own and they generally sleep in Kotwal Bazaar and other markets or on the road sides after their day's business is over. The market owners should be asked to construct sleeping sheds, latrines and water-taps for their use and thus make their short stay in the City comfortable. Cooking, eating and sleeping on the road-sides should be prevented, as there is every likelihood of these people catching infection and spreading it in the city.

Lastly comes the beggar problem. In Western Countries, this problem has been definitely solved. But in a country like India where sentimentalism and spiritualism hold sway, there is no prospect of its solution in the near future. There are three kinds of beggars. The first in the list comes the sturdy beggar, who is a nomade, who has no home of his own, able-bodied and extorts alms through intimidation and threats of sorcery and the like. The law so far has not touched these beggars and they must be booked, as they constitute a menace to the people. A small workshop or a cottage industry should be opened where they should be compelled to work and we are sure that this enterprise will pay its way. Next, come the infirm and the decripit. These are no doubt entitled to public sympathy and support, provided they are absolutely helpless. The Corporation should open beggar asylums and feed them, so that these poor creatures may not die of starvation on the road-sides. Lastly, we have the diseased beggars. This class of beggars who are mostly lepers and those with chronic sores and wounds must be removed to leper asylums or to poor houses and must on no account be allowed to squat on the road-sides or crowd round trams or buses, blocking the pedestrians and thereby endangering their health, nay, their very lives. We understand that the Corporation proposes to entrust the working of the poor houses in the City to the Salvation

Army. While we applaud the good work done by the Salvation Army in India in looking after the criminal tribes, in managing leper asylums and in improving generally the social conditions of the poor in various other ways, we wish the religious sentiments of these poor people are respected. We strongly urge, therefore, that the Corporation should continue to manage the poor houses themselves and not transfer it to any religious sect or body. We hope the non-official bill that is to be introduced at the next session of the Madras Council for the "better control of beggars" is soon passed into law and the beggar nuisance in the City becomes ere long a thing of the past.

Burning out Disease

By

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HIPPOCRATES, Father of Medicine, was always noting the strange and unusual. One of the observations which puzzled him most was that whenever a patient who had gone mad and who had contracted an infectious disease accompanied by a fever there was almost always an improvement in his mental condition as a result of the fever. This ancient Greek doctor was particularly impressed by the way epileptics were made better when they had contracted quartan malarial fever. The fever actually seemed to sear their brains back to reason. About five hundred years later Galen, greatest of Roman doctors, noted the same phenomenon. High fever seemed to bake the mind back to reason.

During later centuries other doctors were impressed. Boerhave, the medical giant of medieval Holland wrote wonderingly on the influence of fever in restoring the disordered mind to reason. No less impressed was Sydenham, the greatest of early English clinicians. It was a wonderfully strange occurrence. In France at about the same time cholera had raged through a madhouse, killing hundreds, but those who had survived had awaken to sanity.

As the years went by the interest in the influence of fever on diseases of the brain began to increase. In 1864 Dr. Nasse noted particularly the favourable influence of malaria on mental diseases and pointed out the especially striking results obtained in a form of mental disease caused by syphilis and known as dementia paralytica, or paresis. In 1848 Dr. Koster had published an article on the influence of malarial fever on mental disease, and in 1874 Dr. Rosenbloom of Russia began an extended observation of the influence of fever of four cases of mental disease.

It was in the year 1883 and Dr. Wagner Jauregg was attending a woman who had gone mad and at the same time was suffering from typhus

fever. She was apparently dying. The fever raged within her. She had many fits, and finally kindly Nature sent her into a stupefying coma. For several hours she lay dead to the world. The fever flamed her face and parched her throat. On the following day she awoke. The fever was gone. And a most astonishing thing occurred; her reason had returned. She had come out of her bout with the fever happier than when she had entered it. The fever had burned the madness out of her brain. Dr. Wagner Jauregg became so impressed by this phenomenon that thereafter he had but one purpose in life; to study how fever burned out madness.

Opportunities seemed to intrude themselves on Dr. Wagner Jauregg. Not long thereafter he was making the rounds of the wards in a mad-house. Here was the case of a mother of nine children, gone mad and condemned to a hell on earth. Her present condition was more medical than psychiatrical. She had latterly contracted a fever disease known as erysipelas. Her face was red and angry looking, for the disease infects the skin primarily. Her body was racked with pain and fever. Fever and madness. Here was a case worth watching. Dr. Wagner Jauregg was now always on the lookout for cases of fever and madness. He assumed charge of the patient. Her progress was watched most carefully. When she recovered she also recovered her mind. Dr. Wagner Jauregg was jubilant; he was now reasonably certain that fever could be used to burn out madness.

For four years Dr. Wagner Jauregg was eagerly studying every case of madness and what fever disease did for it. It seemed that once fever could be induced favourable results could be expected. There was his friend Dr. Ludwig Meyer who was also interested in insanity, particularly that insanity induced by syphilis, paresis. Dr. Meyer had become enamoured of a salve of his own making, a salve which contained antimony which he used to rub into the scalps of his patients crazy with the syphilis germ. It was his strange belief that the antimony would somehow be absorbed through the scalp into the brain. But it required rubbing, a great deal of vigorous, skin destroying rubbing. And Dr. Meyer rubbed with all his might. A great many of his cases became infected and developed a fever; the greater the infection, the greater the fever. Those who had developed the fever were those who got back their reason. Dr. Meyer was jubilant. He thought he had the right remedy. He had only the right way of applying it. The remedy itself was worthless. The cure came from the infection which brought on the fever.

By 1887 Dr. Wagner Jauregg had become convinced that fever induced specifically was the only worthwhile remedy in madness, particularly that madness brought on by the corkscrew germ of syphilis. He had seen cases of erysipelas brought back to reason. He tried to inject a solution containing erysipelas germs into madmen. There was but a slight reaction; no fever could be induced and the madmen remained mad. Dr. Wagner Jauregg was convinced that the only fever disease which could be used with any degree of success was malaria, but the

doctors of those days regarded malaria as a very dangerous disease, and to infect any one intentionally with malaria was too great a risk. Although Dr. Wagner Jauregg himself would have liked to use malaria he was prevented by the united hostile opinion of his colleagues.

It was now 1890 and still Dr. Wagner Jauregg was interested in the problem, and he felt that he had not done all that he should have. He tried all sorts of germ injections, but they were far from satisfactory. In 1890 Dr. Robert Koch had given to the world his remedy for tuberculosis, which consisted of an attenuated solution of the tubercle germs. This was the first of the great expectations that failed to accomplish what everyone had thought it would. Tuberculin was turned to other uses, and of its earliest uses was to induce fever artificially in madmen. Denied malaria germs Dr. Wagner Jauregg took to using weakened tuberculosis germs. For ten years he used tuberculin almost exclusively, but his results were far from satisfactory. Tuberculin could not bring about a fever of sufficient strength to be of any value.

For 30 years Dr. Wagner-Jauregg had experimented with fevers in cases of insanity and for 30 years he had felt that he was being prevented from using the one germ, malaria, which could really be of value. In June 1917 the chance he had been waiting for presented itself. A shell-shocked soldier who had contracted malaria had come under his care. Also he had been watching an actor and a shoemaker, both whose reason had been dethroned by the treacherous corkscrew germ of syphilis. They were fullblown cases of general paresis. He was in absolute charge of all three cases; he felt that he could take the responsibility upon himself. After thirty years of waiting this was too good an opportunity to let slip by. It would be worthwhile facing whatever consequences would arise from what he was about to do.

With furiously beating heart Dr. Wagner Jauregg withdrew a quantity of germ-laded blood from the malarial shell-shocked soldier. Into the arm of the crazy actor went a quantity and into the arm of the syphilis-maddened shoe-maker went the remainder. Within several hours both crazy patients were down with malaria. How had they contracted it? Well, someone had been careless. Why argue about it now. They had malaria. But Dr. Wagner Jauregg was becoming queer, so thought his assistants. He would not allow the malarial patients to be given quinine. Let them have the malaria, the doctor had said. It will perhaps burn the madness out of them. After all, Dr. Wagner Jauregg was the chief, and what he said went.

The crazy actor and the crazy shoemaker went through a burning bout with malaria. They walked through valleys of fire, but it was healing fire. After an interval that seemed like an aeon they emerged. They were not longer mad. They had been brought back to reason by way of fire. Soon there were other patients and Dr. Wagner Jauregg was now no longer timid. He had become convinced that malarial fever was the healing fever. Within a year he had collected an impressive array of cases. He published his results in the medical journals.

They began to attract attention throughout the world.

Soon other doctors began to treat cases of syphilis-madness with malarial germs. The results were always good. Dr. Wagner-Jauregg had become the first of the great healers by fire. The others who early followed the master were Drs. Gerstmann, Kyrle and Vohwinkel.

Dr. Wagner Jauregg had shown the way. Others followed and began to offer other and perhaps improved means of inducing the healing fever. In Boston in 1926 Dr. Solomon and his associates, Drs. Berk, Theiler and Clay who had a great many cases of syphilis-madness to treat at the Boston psychopathic Hospital tried sodoku or rat-bite fever. It worked as well as malarial fever and had fewer ill results. Soon other doctors took up this method. A year later Drs.Kunde, Hall and Gerty used typhoid vaccine which they shot into the patient's blood stream. This seemed to impress Dr. O'Leary so favourably that he used typhoid vaccine in a number of cases. The treatment with this fever germ was less debilitating, but the results were somewhat slower in appearing.

The interest in the healing fever now was general. Other physicians were trying other germs; typhoid, recurrent fever, mixed batches of germs. All were obtaining good results. There was no doubt now in anyone's mind that fever was the only way to treat madness induced by the corkscrew grem of syphilis. Meanwhile another group of physicians were interested in a more modern way of inducing high fever as a curative measure. They recalled that many years ago a great French physicist d'Arsonval had discovered that high-frequency undamped currents of electricity raised the bodily temperature. With the improvement of high-frequency apparatus attending the advancement of general electrical knowledge, doctors began to use electrical means of bringing on artificial fever. Dr. King in 1930 and Dr. Neyman in 1931 were particularly interested in this problem By using multiple electrodes of relatively large contact area and wrapping the patient in insulating blankets to prevent heat loss, they obtained fever temperatures which were sustained for extended periods.

When physicists began to explore all the possibilities of the radio waves it was found that the shorter waves could be used to induce fever. Dr. Hosmer in 1928 showed that the temperature of inanimate as well as animate objects could be raised by means of these waves. Radio waves were much handier to use; the older electrical method of large electrodes and blankets although effective was not as efficient.

One man in particular became interested in the possibilities of using short radio waves to bring on the healing fever. He was Dr. Willis R. Whitney, director of research of the General Electric Company. He constructed a machine which he called the radiotherm and which not only induced high fever but was very simple to use. The patient was placed between two plates and subjected to the action of the short radio waves. After the desired temperature had been attained the patient was removed to a bed covered by means of a hood heated

by carbon filament lamps. Very little heat was required to keep the temperature at the desired point.

The first doctor to become interested in the Whitney machine for inducing artificial fever was C. M. Carpenter. He began to spread the news of the new machine, coming to the psychiatric Institute of the Columbia Medical Centre where he particularly interested Dr. Leland Hinsie. Dr. Hinsie was the first to make an extended trial of the Whitney machine, and the results he obtained were so satisfactory that other physicians soon began to use this method of creating fever to burn out madness.

The advantages of the radiotherm soon became apparent. By means of this machine the doctor was able to raise and maintain fever for any desired length of time. It was possible to change the temperature at will, a thing not possible when the fever is due to some germ. The patient did not suffer as he did when malaria or rat-bite fever was induced. And the results obtained were just as satisfactory.

From casual observations of physicians of former times Dr. Wagner Jauregg became convinced that fever was the best remedy for insanity. He had the courage of his convictions. He was frustrated at almost every stage in his experiments but after thirty years he was at last successful in demonstrating that artificially induced fever was a cure. From 1917 on the problem was receiving attention from many groups of physician and other scientists, till finally with the construction of the radiotherm the highest degree of efficiency was attained. By means of the radiotherm the technique of inducing the healing fever has reached its highest point of development. It is one of the greatest contributions of modern medicine.

Hardening of Indian Cheese (Chana)

By

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INDIANS do not use cheese prepared by rennet which is a ferment obtained from the stomach of the calf. Indian method of preparing Chana is to take warm milk and to add to it some whey water obtained from the Chana of the previous day. This whey water is called Bija (meaning seed—a ferment). Within a short time the curd separates-soluble caseinogen being converted into insoluble casein entangling the fat particles. Then the whey is separated by filtration through muslin. And the Chana is ready for sale or transport.

In Bengal, and specially at Calcutta, there is a large demand for Chana, which is used for making various Indian sweetmeats. These are extensively eaten by all classes of people: no Indian feast would be complete unless these sweets are present.

Various uses of Chana

(1) Fresh curd is eaten raw-mixed or unmixed with sugar.

(2) Chana is mixed with thickened milk or boiled with it and sugar added to it: this is called *chanar pais* (casein pudding).

(3) The most important use of Chana is in the making of *Sandesh* considered to be the best sweet-meat of Bengal. For the preparation of Sandesh the Chana must be quite fresh: sugar is taken in the proportion of 1/16th to 1/4th part of Chana. The smaller the quantity of sugar, the better the Sandesh is. The sugar with water is placed on a pan on fire and is converted into a syrup and the Chana is then added. Then by means of a wooden handle the syrup and Chana are thoroughly mixed until proper consistency is attained. The presence of too little or too much water is avoided by the workmen. An expert Sandesh maker takes a little of the warm Sandesh between his thumb and fore-finger, and separates his fingers gradually until a thread is formed and breaks. The length of the thread gives an indication as to the amount of water present in Sandesh. Then the preparation is removed from fire, cooled, formed either by hand or frames into suitably shaped pieces and is ready for sale. In a certain variety of Sandesh the material after cooling is further rubbed into a smooth paste in which no obvious particles are seen. Sandesh though costly is undoubtedly a very highly nutritious and easily digestible article of diet. It contains casein, fat and sugar. In superior class Sandesh the casein is in a soft and impalpable condition and is easily digested. In low-grade Sandesh the casein particles are hard, large sized and are digested with difficulty.

(4) *Ras-galla*:—This is the next important preparation of Chana. For this purpose also fresh Chana is required. In some well-known firms of sweet-meat makers, fresh Chana is prepared from milk. The Chana is placed in a cloth bag and as much water as possible is removed by pressure. The hard Chana is then rubbed into a paste from which small balls of the size of marbles are made. In a pan on fire a large quantity (sufficient to cover all the balls) of thin syrup is boiled. The balls are thrown into it and boiled for some time. The preparation is removed from fire and set aside; it is ready for use after four to twelve hours.

(5) *Pantooa*:—This is the next important preparation. Hard Chana is taken and is mixed with a variable quantity of flour (1/16th to 1/4th part—superior products containing less flour than the inferior ones) and a paste is made. This is frequently stirred with hand to entangle air inside the meshes of the paste. Then the paste is made into variously shaped balls which are then fried in boiling ghee (clarified butter). When the balls have assumed brown colour they are removed from the ghee and placed in previously prepared hot syrup. During the process of frying the entangled air bubbles expand and make hollow spaces inside the balls which grow much larger than their original size. Care is taken to completely cover up the balls with syrup. When the whole thing cools, the air bubbles inside the balls contract and cause partial vaccum which sucks the syrup in. The preparation is ready for use after several hours.

(6) *Chanar-Murki* : lowgrade stable

and hard Chana is cut into small cubes and boiled in syrup. These cubes are very hard. They keep for several days.

(7) Similar phenomena of hardening of various protein foods under different conditions of cooking occur. Stiffness of various kinds of fish and meat with age is often found. Flesh of young animals when cooked is quite soft whereas that of old animals is very stiff. It was thought that the pH values of the different kinds of cooked proteins, or the medium in which they were cooked were responsible for their softness or stiffness. Experienced cooks know by practice what amount of cooking material is needed to make these foods soft, and palatable. With a view to study a part of this phenomena we started to determine the *hydrogen ion* concentration of curdling of milk. First of all the hydrogen in concentration of normal milk was determined by electric method. Cambridge portable potentionmeter was used for the purpose (Vide Cole's Physiological Chemistry). Different quantities of dilute acid were added to different samples of milk; they were just brought to the boiling point, cooled and then the pH determined. The resulting curds were compared as regards the, hardness. Reaction of normal cow's milk was found to be equivalent to pH 6.7. At pH 6.4, the curd was very soft; at pH 6.1 to 6.2, the curd was very hard. At pH 5.5, the curd gets soft again. The annexed table will show the result.

Table

(Showing pH of milk when boiled with different samples of acid).

pH value	Condition of curd or milk
6.7	Reaction of cow's milk.
4 6	The isoelectric point of casein-the point where maximum precipitation of casein occurs.
6.4, 6.6	Curd remains soft.
8.4	The curd is very soft.
10.1	The curd is dissolved and assumes a brown colour.
6 1, 6.2	The curd is very hard.
5.5	The curd begins to get soft probably due to formation of acid meta-protein.

SAVE YOUR EARS

Do not poke things into your ears.
Do not blow your nose hard. The pressure may force secretions into your ears.
A running ear will cause deafness.
Tonsilitis and sinus trouble often cause running ear.
Save your ears.—THE ORIENTAL WATCHMAN.

Housing and Health*

By

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THOSE who have ever cared to study the poor housing condition of our Punjab towns must have come to the conclusion that their condition is far from satisfactory. They must have found malaria ridden areas, slums and squalors, mosquito ridden streets and bazaars, ill-ventilated and ill-designed congested houses, broken unseemly dwellings, dark sunlight proof rooms, ever encroaching tharras and balconies, broken pavements, stinking drains full of filth, general unsightliness and dirt, and pits improperly covered. This deplorable condition of all round sanitation has produced a detrimental effect on the health of the inhabitants. Consequently we get pigmy progeny, cranky and rickety girls, with ever increasing phthisis, influenza, diarrhoea and other bowel troubles. Moreover bad dusty abominable roads cause trachoma and conjunctivitis. This is the pitiable and ever increasingly worsening condition of our Punjab towns, which has grown up with the growth of the cities. In big and small towns the conditions are practically the same. The urbanisation process as long as it goes, must produce these evil effects unless and until some effective measures are adopted to check this ever increasing urbanisation or some suitable propaganda is made in favour of "Back to Villages".

Some people say, "God made the country and men made the towns." The implication is clear that while towns are unclean and dirty with little fresh air and sun, the country is full of these blessings of God. Say what one may in appreciation of country life one cannot deny the fact that the process of urbanisation is going on at a rapid rate in almost all the countries of the world. In India, Bombay is leading with a ratio of 22.6% of urban population. Our province has got 12.4% of urban population. The reason for this increase in urbanisation as given in census report of 1931 is the establishment

A Country House being cleaned and decorated.

* A paper read at the open session of the All India Medical Licentiates' Association and sent to 'Health' for publication.

of industries and other occupations in the towns.

These figures are decidedly low when compared with the urban ratio of foreign countries. Netherland has a ratio of 48.6 %, France 49 % , Canada 53.7% U. S. A. 56.2% and England and Wales 80%. These figures show that the problem of housing must be very acute in these countries and it is there that we find a systematic and scientific study of the housing and health problems. If we just care to read the present day literature and the present day periodicals of those countries we will find great stress being laid on such subjects as elimination of slum areas, garden city movement, garden suburbs, garden villages, park system, group house development, town improvement,civic improvement, building problems, zoning areas, housing societies, and so on and so forth. Conferences are regularly and systematically held in which papers on such like subjects read by eminent men. Press and platform, cinemas and theatres are freely utilised. Exhibitions and show rooms are being suitably arranged to educate the public as to the value of the health and the housing. Within the last 50 years a vast amount of detailed knowledge has been accumulating among medical men in regard to social considerations while scientific research is forging onward and conveying one truth after another as deciphered in the laboratory into the domain of recognized fact and this knowledge is being linked up with the administrative department of the city, state and nation.

The housing problems as the Engineer sees and the home problem as the physician sees it because it includes not only the house itself but the sanitary conditions within and without the house, are deserving of the most serious consideration.

It is in the home for the most part that the entire drama of life is played. It is the foundation and cornerstone of society and should be safeguarded. Koch the discoverer of the tuberculosis bacillus has said that tuberculosis can be called a dwelling disease. The improvement in housing condition is a most hopeful sign and promises much in the way of proper drainage, more cubic space, more glass and sun areas in the house. So an architect who plans and offers useless house for a dwelling place is a foe to the community.

Virtually it is the architect or Engineer who is responsible for the structures, for the dwellings, for the regional plans and for the design of the houses. When his duty finishes the duty of the doctor begins. It is here that the doctor, rather, the physician is to show the great ideal and glory of his profession, his deep love of humanity and his personal feeling for human woes and happiness. Both the engineer and the doctor have to perform important duties in the corporate life of the municipal administration. They are necessary for the civic life of the community and of the nation and they both know or ought to know the economic value of health to the state. Both must recognise that health is a national asset and disease is a national liability. So these are two branches of the beneficient service and both must co-operate to insure the health, wealth and moral welfare of

the community. The engineer's work is more of a preventive nature and that of a doctor of a curative type. Both have the same objects in view to weed out of the daily life of the people whatever makes for diseases and to guide them to what things help resistance, what makes for moral and physical well-being and the full measure of capacity.

Bad housing consists in "Houses that are (*a*) poorly lighted, (*b*) unventilated, (*c*) damp, (*d*) imperfectly drained, (*e*) exposed to undue fire peril, (*f*) in bad repair, (*g*) vermin infested, (*h*) disease infected, (*i*) with insufficient water supply without toilet accommodations adequate for comfort,cleanliness and privacy, (*j*) with defective tenements".

Such houses are dangerous to moral and physical health, social and personal. They promote (*a*) industrial inefficiency, (*b*) inebriety, (*c*) dependence, (*d*) poverty (*e*) disease (*f*) death (*g*) juvenile delinquency (*h*) debased citizenship (*i*) vice and crime and (*j*) degeneracy of race.

The prevention and cure of bad housing conditions must proceed along three lines.

First—Every new dwelling and tenement must be constructed so as to afford suitable living accommodation.

Secondly—Every old house not now fit for habitation should either be demolished or improved so as to become fit.

Thirdly—All habitations new and old must be maintained in good repair and sanitary condition.

I believe this is enough to show that the main objective of a town planner or the engineer is to provide healthy living and to remove the evil effects of bad housing. So while we as engineers and townplanners have to provide for healthy living, the doctors have to make healthy living. As to the evil effects of bad housing I do not think I can do better than quote an eminent authority like Doctor James Ford of the department of Social Ethics, Havard University who has summarised them in his own beautiful and inimitable language.

"The disease associated with housing condition may be classified according to origin as (1) traumatic (*e.g.*, maiming bruising, burning, crushing) (2) parasitic (conveyed by microscopic colonless plants) (3) chemical (inorganic poisonings) (4) nervous or mental. Of these the disease of bacterial orgin which are associated with housing seem to be numerically the most important including as they do a large number of prevalent respiratory and intestinal diseases. The traumatic group is of notable importance, the parasitic and chemical of slight relative importance. The mental group is unmeasured and for the present unmeasurable, but perhaps the most significant of all".

I do not mean to say that housing conditions are the only or the sole cause of disease. There may be consitutional predisposition, hereditary or acquired. Never-the-less the conditions of various sorts are the real factors in the reduction of health and in the production of a variety of diseases. Improvement of housing conditions will serve to reduce the volume of preventable diseases and accidents and may help to render the lives of persons of small income not only tolerable but efficient and joyous.

Prevention of Eye Diseases

By

DR. T. P. SUNDRAM,

Adyar.

THE human eye is an organ that has taken millions of years to evolve out of the primitive instrument of vision of the lower animals. It has still not attained that theoretical optical perfection which one would expect of it and is still tracing its path towards that evolutionary goal. The maintenance of fine sight is a necessary adjunct to intellectual advancement and therefore, to neglect the one would naturally mean the gradual destruction of the other.

In my article "Care of the eyes" * I told you about the importance of early treatment in eye diseases and in this article I would like to stress more on their prevention. The general health of the body is a vital factor in the health of the eye and diseases that affect the body visibly or invisibly affect the eyes also. This is a point the lay people cannot easily see and hence they are accustomed to treat the eye as a detached organ which has very little to do with the other members of the body. This ignorance on their part is the first thing to be removed.

The careful physician knowing the dependence of the eyes on the general constitution advises his patients not to strain them during illnesses or convalescence. Many eyes are irretrievably lost due to negligence or careless treatment of specific bodily diseases such as the venereals. Other bodily ailments responsible for defective sight are kidney troubles, tuberculosis, acute infections (especially small-pox,) vitamin and glandular deficiencies (keratomalacia), focal sepsis (bad teeth and enlarged tonsils), disturbances of the circulatory system (anaemias and high blood pressure) and a few hereditary blinding diseases. Still a few other factors causing partial blindness are errors of refraction, abuse of alcohol and narcotics, injuries and ulcers, dark illventilated dwellings, lack of personal hygiene and unhealthy surroundings. All of these yield very much to prophylaxis, and early treatment.

Recently, an eminent Ophthalmic Surgeon of our Presidency gave a series of lectures on "Blindness in Children and Adults" and emphatically expressed that many of these types of blindness are admirably preventable by vigorous and continuous educative propaganda and frequent medical examination of children. He said that Keratomalacia is essentially a disease of faulty nutrition and unhealthy surroundings: the granular disease called trachoma occurs in the "unwashed, greasy and lousy" individuals living in over crowded, dark, illkept and illventilated dwellings: ophthalmia of the newborn is prevented by instilling a one per cent solution of silver nitrate into the eyes of the child soon after its birth; syphilitic infections should be dealt with on antisyphilitic measures: corneal ulcers resulting from small-pox can be reduced by vaccination: quacks should be prevented from using irritant remedies: hereditary blinding diseases require more radical measures as sterilization. In these few words are contained the

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germinating seed of a great practical and vital problem. It is up to the public to nurture this sprouting seed and see that it develops into a mighty, protective everliving tree.

Worshippers of the Sun

By

JAMES STANLEY.

THREE thousand years ago the sun was worshipped in England. Then wise men came along and said that sun-worship was a heathen form of idolatry. More wise men followed them, each stating their own ideas, until in this twentieth century they tell us that to get radiant health we must pay *daily homage to Phœbus.*

The modern wise men are probably right, yet, in spite of our tricking our allowance of daylight, by putting the clock back in the summer, ninety-nine out of every hundred of us can only present our compliments to the sun in the proper manner for a mere fortnight out of every year. Then, although we try to make up for lost time by taking daily sun-baths of ten hour's duration, we feel the reverse of what we had expected, for besides our skin peeling in a most unpleasant manner, we feel too weary to move.

Sun-bathing is, in a way, similar to taking medicine. Supposing a doctor suggested our taking a dose of a certain tonic every day for a year (not that we should entertain such a suggestion!), it would be very unwise of us if we ignored the medicine for the first fifty weeks, and then on the last fortnight took 365 doses! Yet that is precisely how we treat the sun.

Some people may wonder if the modern sun-bathing cult is as beneficial as it is maintained to be, or if it is just another fad. It is emphatically *not* a fad. Civilization has long since acknowledged that life cannot be sustained without light—even Aunt Matilda places her favourite plant in the sunniest window-box—but it is only of recent years that doctors and scientists have realised the important part the sun plays in maintaining good health, although Naturopaths have emphasised its value for fifty years and more.

Perhaps you have noticed how "stodgy" you feel at the end of the winter. At the first sign of spring you throw open your window, cast off your winter coat, and look forward with zest to the days when you will again have the vitality you had the previous August, when you frisked about the sea-shore like a two-year-old. You probably put this stodginess down to the cold weather, stuffy houses, and late nights.

But, if cold weather were the cause, what would the general state of health be in a colder country than ours, say, Canada, where the mercury often drops to forty below zero? Yet the Canadians are, judging by the amount of energy they have for winter sports, far more full of vitality during the winter than are we of these islands. Therefore, it cannot be the cold.

Stuffy houses and the nights may certainly have something to do with it, yet the athlete, who assiduously obtains plenty of fresh air and sleep, also feels a bit off form at the end of

the winter, so there must be some other cause that affects us all.

Actually, it is "sun-starvation." Our homes, our offices, and our places of amusement are, so far as health-giving light is concerned, in the dark. When we take a winter stroll through the city park during the daytime we are still in the "dark," for what little health-giving light there is entirely cut off by city smoke. For all practical purposes, England is a sunless country from October to March. Canada, however, has a brilliant sun almost all the year round, consequently the Canadians can always get their full complement of sunlight, thus retaining their full vitality.

Assuming that artificial sunlight treatment is impracticable for many of us, we naturally want to know if there is any other way by which we can avoid this sun-starvation, and if so, if it is worth our while practising it.

Answering the latter question first: Yes, sun-bathing really is worth while. An Italian proverb runs; "To bathe in water is good, in air better, but in sunlight best of all." Have you experienced the feeling of almost irrepressible vivacity? During your holidays you may experience it, for it is then when you are unhindered by clothes, convention, and time. You feel that instead of running to catch your train, you would have to slow down to avoid overtaking it! That is precisely how you feel after the *correct* amount of exposure to the sun.

How to "Bottle-up" Sunshine

Also, a nicely-bronzed person has an exceptionally clear skin; he has neither blemishes nor pimples. Furthermore, when he is solely attired in a tiny pair of swimming shorts, he looks, strangely enough, to be fully clothed, whereas the person with a perfectly white skin can wear twice as much as the tanned one, yet every beach inspector on the coast will give him a warning look.

The way to avoid this sun-starvation is by "bottling up" as much sun as possible during the summer. A person who is tanned to a deep mahogany colour by the end of the summer will not lose it until, perhaps, the following spring. Consequently, he will not be sun-starved. But the person whose sun-bathing consists solely of the acquisition of a very red nose during a week's hike in August will never know what it is like to feel really full of "pep".

Therefore, when you go on your holiday this year, do plenty of sun-bathing—that is, after you have properly acclimatised yourself.

How to Bathe in the Sun

This, you may have read, has to be done very slowly; four minutes the first day, six minutes the second, eight the third, and so on. By doing this it means that at the end of your holiday you will still be watching the clock as attentively as the average office-boy. As it is most important that you do not overdo the initial stages of sun-bathing, it is a good idea to get acclimatised *before* going on your holiday. Week-ends, for example, are ideal for this purpose, and if you begin your sun-baths early in the season, when the sun is weak, there will be no need to time yourself with a stop-watch.

Then, at holiday-time, you will have no fear of sunburn and peeling skin.

When sun-bathing, you first of all feel full of life; after that you begin to feel just a bit too hot; while, should you continue still longer, you feel too weary to move. This latter stage does you more harm than good. You should, of course, discontinue your sun-bath immediately you begin to feel hot.

By sun-bathing in the manner described, you will, even though you may be a most susceptible blonde, attain a complexion the colour of a Hawaiian native; you will rarely feel the cold, and when winter comes and you look around and see a lot of white, unhealthy-looking people, you will thank the day you became a Worshipper of the Sun!—*Health for All.*

Simple Talks to Mothers

Baby's Sleep

THE newborn baby spends almost all day and all night in sleep, only waking up to be fed and bathed. At a year old he sleeps 15-16 hours out of 24. Sleep is therefore one of the first necessities for healthy, happy development. It is quite as necessary as good and sufficient food. Most mothers can tell when the baby is being starved of food. He becomes thin, peevish and fails to gain weight. Mothers, however, don't quite so often realise that exactly the same signs result when the baby is starved of sleep. It is very important that they should know this, otherwise there is danger that the baby who is already getting sufficient food will be upset by having his food changed or too much food forced upon him, and then because he is upset he will then get less sleep than before.

You have already heard how easily baby forms habits and why it is best to fix a regular bedtime and regular periods of sleep between feeds by day. In this talk, therefore, we have to think about the things which disturb baby's sleep, and the things which will help to make his sleep sound, unbroken and refreshing.

First of all every baby must have a separate cot. This is best for the mother too, because if her baby shares her bed, she is afraid to move freely for fear of disturbing him, she is afraid of sleeping soundly lest she may injure or suffocate him. Her sleep is less restful and she rises tired next day. The baby on the other hand may get chilled if the mother is restless and throws off the clothes. He has to breathe air which has already been heated and used up by the mother's body and you know that he cannot grow properly without fresh cool air. Not less important, he will learn bad habits, because there is always the temptation to feed him or to let him suck the nipple if he wakes and cries during the night. Another bad habit which results is that the baby learns to like the feeling of comfort and security in his mother's arms and it is very difficult to train him when he is older to fall asleep quickly and to sleep contentedly without them. If the baby is given a separate cot from the very first day he will never want continual nursing and attention, and trouble for the mother will never arise. Some mothers think that harm will come to the baby from the separation. No mother need have this fear so long as the bed is warm and comfortable, and I am going to show you now how to make baby's bed so that his sleep may be peaceful and unbroken.

The cradle or cot need not be expensive. Even the poorest home can make one and it is well worth while. The cheapest cradle is the ordinary hanging net cradle found in the *bazaar.*

It is cool in the hot weather and does not take up floor space in the small house. Other cheap cradles made of basket-work or wood and *newar* are quite satisfactory. Whichever kind of bed is chosen it is best to raise it off the ground so that the baby is protected from accidents and draughts, from rats and other animals. It can be placed on a stool or a chair and there is no objection to hanging it from the roof if it is kept quite still. Swinging or rocking the cradle is bad. The baby learns to depend on these attentions and soon will not sleep without them.

In choosing a cot be careful that the bottom is firm. The string or *newar* must be kept tight and the net hanging-cradle must have a solid bottom. If a canvas hammock is being used the sides must be kept apart by wood or some other material otherwise the baby will get no fresh air, he will suffer from prickly heat in the summer and will not learn to move his legs and arms.

To make the bed ready for baby, first a small mattress of *gadi* should be placed in the bottom, protected from wetting by a piece of mackintosh and covered with an old piece of blanket or towel. Over the whole a sheet must be placed and carefully tucked in to prevent creases. The sheet and blanket will require frequent changing and washing.

It is generally necessary to put some cover over the baby at night. For cold nights a down-quilt is the very best covering because it is both warm and light, but it is expensive and a woollen blanket or a loosely knitted woollen shawl is almost as good. A good plan is to place the shawl or blanket under the mattress and fold the ends over the baby; draughts cannot then reach the baby. Cotton quilts (*rezais*) are heavy and less warm and not very satisfactory.

In very cold weather or for a weakly baby hot-water bottles or bags of hot sand or salt may be placed in the cot to keep up the warmth. The hot bottle must not be uncovered and never within reach of the baby's limbs because of the danger of burns.

Where mosquitoes, sandflies or flies abound a mosquito net is essential. It interferes with the movement of air round the baby and when so covered the cot must be placed in a breeze otherwise the baby will not get sufficient fresh air and will sleep restlessly. For the same reason the baby's face should never be covered by any cloth.

In warm weather a cotton sheet may be sufficient covering, particularly under a mosquito net.

If the baby is comfortable he will sleep well, from 6 o'clock in the evening until 6 o'clock in the morning only waking up for one feed at 10 o'clock. Even this should be left off gradually after he is 9 or 10 months old and is taking solid foods. We have seen that the first essential for sound unbroken sleep is right habit-training from the first day of life, the second is to provide for him a comfortable bed. Now we come to one or two other things which will make baby uncomfortable and therefore disturb his sleep.

The things which disturb the baby's sleep come from the baby himself and rarely from things outside him, thus there is no need to protect the baby from the ordinary household noises or talking, nor to put him to sleep in a darkened room. Loud and sudden noises will of course waken and frighten him and must be guarded against but the usual work and pleasures of the father and mother can go on unhindered. It is useful to cultivate the newly born baby's ability to sleep through noise and in daylight until it

becomes a habit. It is less easy to teach him when he is older.

The babies who sleep badly are the babies who are liable to digestive upsets, those who are overfed, irregularly fed, or fed by night. If the stomach is never at rest, the baby's sleep also is restless, he wakes and cries, and is fed again, and his discomfort inside continues. He cannot digest well, therefore he cannot sleep well and he cannot gain in weight and height satisfactorily.

Most mothers know that when the baby has a cold in his head he sleeps fitfully. His nose is blocked and he cannot breathe. He wakes often and cries because he cannot get enough fresh air. The cause in this case is clear and helps us to understand why the baby's sleep is less sound and beneficial when his face is covered or when he shares the bed with his parents. The cause is the same, namely lack of fresh air and the result is the same, namely disturbed sleep.

It is sufficient to mention that wet napkins are uncomfortable, and that it is as tiresome and painful for the baby to be always in one position as it is for the grown up. Attention must be paid to these matters. If the baby wakes up crying in the night a change of napkin or a change of position or a drink of water if he is thirsty is very often all that is required to quieten him.

This talk is already too long and we must leave for another time the day time sleep of the baby and the sleep of older children. What you must remember to-day is that you yourself can do a very great deal to help your baby to be capable and good sleeper.—*The Red Cross.*

Health Tit-Bits

A new Cure for Stammering—Relaxing the Muscles, Hidden Causes.—Science has found a new way to cure stammering children.

Doctors who have been investigating the problem for the London County Council have found that the old ways of speech-control are unsuccessful.

The new method is to teach stammerers complete muscle relaxation.

Thirty centres to cure children in this way have already been opened in different parts of Britain. Eight are in London.

"Stammering is caused purely by muscle tension," an authority said to a "Sunday Express" representative. "It is a nervous disease, and speech-control methods have given no definite cure.

'Industrial life is increasing the tendency to stammer, but whether this is due to the noise or business we do not yet know. More girls are beginning to stammer.

Their past life—"The new treatment begins with a close inquiry into the past life of every child who stammers, so that doctors can discover some cause for it.

"One boy who stammered badly told his teacher that he had once locked his baby sister in a room and while she was alone her clothes caught fire.

"She was burned to death, and the boy, feeling he was responsible, began to stammer.

We convinced him that he was in

no way responsible and gave him a course of muscle relaxation. The stammer disappeared completely.

"Every child is made to lie down on the floor and try to relax every muscle so that he is almost asleep.

"This attitude of ease grows so much that even when he is talking he forgets the effort to speak and the words flow fluently from his lips."—*The Indian Express.*

* * *

Death from Too much Vitamin D.—Vitamin D, the anti-rachitic vitamin, is administered to insure a proper utilization of the calcium of the food and the normal development of the bones through the assimilation of calcium. Recent observations have shown that harm may be done by an excessive intake of vitamin D.

Dr. Thatcher, a Scotch physician, recenly reported (*Scientific American*) a case of "a child of eighteen months who was admitted to a hospital in Edinburgh, much underweight and unable to walk alone because of weakness. Doctors at the hospital diagnosed the ailment as a kidney inflammation. The child died".

The history of this case showed that the child had been taking large quantities of a vitamin D preparation—fully double the proper dose. On examination of the viscera, large quantities of lime were found deposited in the kidneys, which had thus been crippled until finally they ceased to function. The death of the child was undoubtedly due to too large a volume of vitamin D.—*Good Health, U. S. A.*

Diathermic Baking.—*Berlin Scientists' Experiments*—Diathermy has now been applied to the preparation of food. The development of diatherma-therapeutics has enabled investigators to evolve apparatus which may be successfully applied to purposes outside the range of medical practice. Recently, in Berlin, successful experiments have been concluded in which bread dough was placed in a high-frequency field and thus heated from within so that a loaf perfectly cooked throughout was produced, but with its exterior free from crust. It is claimed that this ultra-modern form of baking has many advantages in thoroughness, distribution of heating effect, and elimination of waste. It can also be modified to suit a wide variety of products.—*Food Industries Weekly.*

NOTICE

All India Medical Licentiates' Association.

"TWO THESIS PRIZES"

(Open only to the Members of the Association.)

Subjects :—**"Antenatal diseases, their cause and treatment"** for the Joseph Benjamin Thesis prize Rs. 35—(Rs. Thirty-five only).

"Cerebro-Spinal Fevers" for the Dr. P. S. Ramachandrier's Thesis Prize Rs. 25/—(Rs. Twenty-five only.)

All bonafide members of the Association can compete for the prizes. The Articles *should not be more than one thousand typed lines or their equivalent*, and should be sent to Dr. Joseph Benjamin, President of the Gujrat Branch of the A. I. M. L. A. Dhalgarwada, Ahmedabad so as to reach him on or before the 30th September 1934.