

Health

*A Journal Devoted to
Healthful Living*

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EDITORIAL

Preventable Diseases

WE hear every day people saying: "Our fore-fathers were strong, healthy and lived a long time, why should ourselves and our children be so weak, sickly and die young?" They won't pause to think why it should be so, nor will they be convinced by your explanations. It is all our own making. Our ancestors were living mostly in the open air, basking in the health-giving rays of the sun, taking fresh and regular food, and had to toil heavily both for their food and for the defence of their life. But, to-day, we are after an easy and luxurious life. We are crowding in towns and cities to avoid manual labour and to have more luxuries. At the same time we are paying heavily. We have not got enough air to breathe, the sun's rays cannot penetrate our strong walls and the heavy glass windows of our houses, we have not enough fresh food to eat and our body decays and degenerates for want of manual work.

The result of all these things is that we are a prey to many bodily ailments and diseases, from which our fore-fathers were free. We are only illustrating below how some of the common diseases of the day, which are taking a heavy toll among the urban population, are purely preventable diseases.

Tuberculosis.—By this time the readers of 'Health' must be familiar with the causation and prevention of this disease. We would only remind you that fresh air, sunlight, nutritious food and plenty of exercise are the enemies of this disease. As you all know this disease is generally contracted in early childhood, and as such you must be careful about your children from birth. Mother's milk is the best food for the newly born. Give your children fresh milk, fresh fruits and vitamins. Allow them to play as much as possible in the open air and in the sun. Insist on your sons and daughters in playing games

in the open air. There is a wrong notion among our people that this disease is incurable. It is not so. Early cases, properly treated, are always curable. Therefore, always be on the look-out for the early symptoms of this disease in your children. They are, generally, progressive loss of weight, attacks of cough now and then, slight rise of temperature in the evenings etc. Most of us are supposed to have been infected by this disease at one time or other of our lives. But if the soil is not fertile, the germs will die a natural death and the soil becomes barren by exposure to air and sunlight, by good food and exercise.

Diabetes.—This is a disease of the rich and the leisurely class. Why? Because they eat more and work less. In spite of the tremendous improvement made in the treatment of this disease

during recent years, there is marked increase in the number suffering from this disease and also in the mortality rate. This is because we are not able to tackle the contributory causes. Again the present-day civilization is at the bottom of this. Average man or woman enjoys more food now-a-days than is necessary for him or her. He is fond of carbohydrate foods (like rice, wheat, sweets, chocolates, etc.) He eats more than is necessary for him, with the result that he exhausts the inter-

nal secretion called "Insulin," which is quite essential for the proper metabolism and storage of sugar. When this supply of insulin is exhausted we get the state, called Diabetes, where the body is not able make use of the sugar taken and it is passed in the urine. If we only eat our requirements we will never get diabetes and our principle must be "eat to live and not live to eat." At the same time greater mechanization of industrial processes

has relieved the population much of the hard and heavy work. This technical labour has permeated even the farms and homes, and the man uses his hands and legs less and less. This want of manual labour is another predisposing cause. Men with sedentary habits, as lawyers and merchants, are more prone to this disease. Exercise burns up the carbohydrate for the supply of energy;



Rich foods and drinks, from childhood, without sufficient exercise make one an easy prey to diabetes in the adult age.

but in those who do no manual work, carbohydrate is deposited as fat. When a man becomes fatty, you may be sure he is taking excess of sugar and liable to get diabetes.

High blood-Pressure.—All sudden deaths in civilized man are mostly due to this. When a blood vessel, under tension, ruptures in the brain, it causes hemorrhage and the man dies. Sometimes it causes what is called heart-attacks, excruciating pain in the region of the heart (angino pectoris) and prognosis is

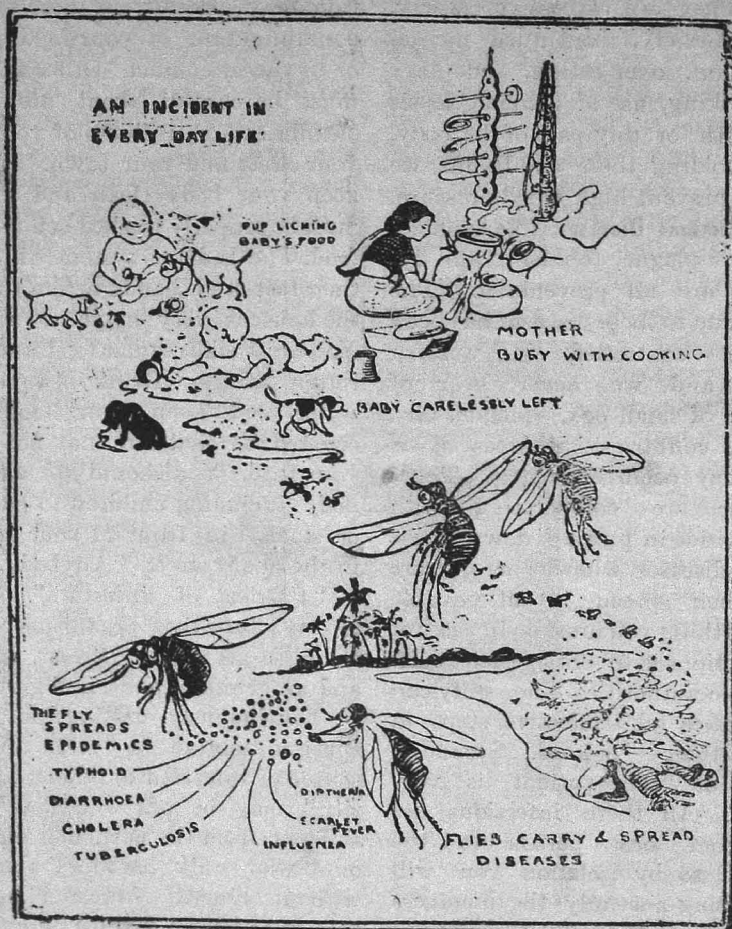
bad in such cases. This is brought about by conditions in which we are forced to live by the present state of our society. They are excessive worry, prolonged anxiety, continued mental concentration, over-eating, sedentary habits, smoking, use of alcohol, sepsis in the mouth or any part of the body, *etc.*, By avoiding these conditions, we can easily prevent high blood pressure.

Acute Infectious Diseases, like typhoid, small-pox, plague, cholera, and dysenteries are all preventable. The mortality due to these diseases has been completely controlled in western countries, and we never hear of epidemics of small-pox, plague, *etc.*, in those countries whereas it is an every-day occurrence here. There the public are co-operating with the authorities in putting down these infectious diseases, whereas here we are helping their spread in all possible ways. First thing you must do in cases of these infectious is to notify their existence to the authorities. Then only can the authorities take effective steps to prevent their spread. Secondly, isolation of the patient is very important. All these infections are spread from one person to the other and so by isolation you will be protecting not only the members of your family, but also your neighbours and other members of the community. Isolation in an institution is preferable from the point of the patient, because he will get the best nursing and suitable treatment which an ordinary patient cannot command in his own house. Third thing to be done in prevention is Disinfection. All the excreta of the patients (urine, motion and sputum) must be disinfected as soon

as they are passed, because these contain the disease producing germs, and by means of flies or other sources infection may spread from these sources by contamination of your food or water or by direct contact. Other things you must be careful about are personal cleanliness, cleanliness of your house, your street and your town. You must keep your body clean and the hands must be properly washed before you take food. The Indian system of washing their feet and hands before they enter the house is very hygienic and good. You must take regular food and not eat rotten things. Drink always boiled water and keep your food always covered so that flies may not get into your food. You should not allow any body including children to pass urine or stools in front of your house or in the open street. Anybody may be a "Carrier of infection". That is to say, infective organisms may be found in his mouth, throat, intestines and urogenital organs, and germs may be continuously passing out in his sputum, motion or urine and be a source of infection to others. A "Carrier" may be one who has already suffered from the particular disease or one who only harbours the germs without himself suffering from the particular disease. Even a child may be a carrier; and so it is equally important from the point of public health that even a child should not be allowed to defaecate or urinate in the streets and open places, which is a common rule in our towns. Indiscriminate spitting must also be condemned. Lastly a word must be said about immunization. There is vaccination for small-pox, inoculation for typhoid, cholera and plague, which will make the body immune to the

particular disease for a variable period. As such you must always volunteer yourself to get vaccinated in times of

from the point of public health, before we accuse the public health authorities for the high incidence and



epidemics, which will have a check on the rapid spread of the disease. There are many things which we have to do

mortality due to these diseases in our country.—DR. K. L. NARAYANA RAU, M.B., B.S.

"Good Health is the foundation not only of business success, but of successful living. Its influence on personality is profound, and in urging that one's health assets be examined and improved to the highest degree we are seeking to accomplish that which will make life more colourful, more satisfying, and in every way more livable for himself and for the great mass of the people."
—EUGENE LYMAN FISK, M.D., Medical Director, American Life Extension Institute.

The Conquest of Syphilis

By

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Syphilis is one of the most widespread of all diseases; it is also one of the most enigmatical. Its origins are lost in the mist of time. No one seems to know when and where it began. Only recently paleopathologists, experts who read signs of disease in ancient bones, have begun to find evidence that syphilis existed many thousands of years ago. Skulls and long bones from the ancient graves of Egypt, Nubia, China, Japan, France, Scandinavia and America have shown unmistakable signs that the pallid corkscrew germ of syphilis had eaten into the flesh and bones of human beings thousands of years ago.

The ancient writings on syphilis are few and scattered, but they are illuminating. In 700 B. C., according to the records of the royal library of Sardanopolis, Istar, the goddess of sinful love hurled a curse on Eabani and Izdubar. This curse, according to modern interpretation was syphilis. The greatest of all ancient historians, Herodotus, writing in 450 B. C. tells us that the Scythians attacked the sacred temple of Venus Uranus at Ascalan in Syria, following which the goddess gave them a disease which they passed on to posterity. There is little doubt that this disease was syphilis. An ancient document unearthed at Luxor and published in 1875 gives unmistakable evidence that syphilis was somewhat common during the reign of Seorastus, Pharaoh of Egypt, some 3000 years ago. And in

the Bible occurs a description of a disease which modern authorities feel sure was syphilis. David, King of Israel, himself infected with the loathsome disease describes it in the following words: "There is no soundness in my flesh, neither is there rest in my bones because of my sin. My wounds stink and are corrupt because of my foolishness. My loins are filled with a loathsome disease and there is no soundness in my flesh."

But it was the conquering hordes, the armies, which spread syphilis on a large scale and first made mankind thoroughly acquainted with this corrupting disease. The first recorded instance occurs in 183 B. C. when a frenzied call was sent to Rome from Greece for physicians (The Roman doctors had vastly more experience in treating the disease). The conquering Greek armies had returned home from their triumphs abroad and had brought the dread disease back with them.

The First Great Epidemic.—The first great epidemic of syphilis which served to focus attention sharply on the disease occurred in the autumn of 1494 when Charles VIII of France, with an army composed of mercenaries from all parts of western Europe, invaded Italy for the conquest of Naples. Italy had for years been weakened by dissipation and luxurious living. Her component states could not agree among themselves and Italy was powerless to put up any sort of resistance against the invaders.

The French king swept through Italy like a triumphant fire. There was but little real fighting to do. The mercenaries spent most of their time in debauchery. Charles gained the throne of Naples and set up his court in that city.

But it was not for long that the French conqueror held his throne in Naples. In a few months his debauching army had become so weak by disease and dissipation that the Neapolitans were able to drive him out. In 1495 Charles and his army were driven from Italy.

With the appearance of the licentious soldiers of the French king in Italy began an epidemic of syphilis which made everyone aware of a new and terrible disease which corrupted flesh and mind. With the routing of Charles' troops one year later syphilis began to spread like a conflagration throughout Europe. It appeared in France and Germany and Switzerland in 1495, and one year later it was already common in Greece and Holland. To England and Scotland it spread in 1497, and in Hungary and Russia it was known in 1499. Charles VIII of France is known to medical history as the spreader of the greatest of all modern curses.

When the full realization of the horror of the strange ailment dawned upon its victims drastic steps were taken to control it. In the year 1496, the Parliament of Paris decreed that all persons infected with the disease should leave the city within 24 hours. In Nurnberg similar measures were taken at the same time. On April 21, 1497, the town council of Aberdeen, Scotland, ordered that, for protection from the disease all women of light

virtue desist from their vice and sin of venery and work for their support, on pain of being branded with a hot iron on their cheek and banished from the town. Six months after the Aberdeen order, the Scottish Privy Council passed an edict ordering all inhabitants of Edinburgh afflicted with syphilis into banishment to the island of Inchkeith near Leith.

When syphilis first began to spread with rapidity over the face of Europe it was called by many different names. The Italians called it the Spanish or French disease; the French called it the Italian disease; the English called it the French disease; the Russians called it the Polish disease; the Turks called it the French disease; the Indians and Japanese called it the Portuguese disease. It was always someone else's disease, although everyone had it. Finally, Frocastorius, poem writing physician, wrote a lengthy poem in Latin on the disease and named it syphilis, which seemed to imply that it was a disease peculiar to those who were hoggish in their love ways.

Unfortunately syphilis began to spread over Europe during the epoch of the voyages of discovery. This meant only that syphilis would not be confined to Europe but brought to other parts of the world. The Portuguese carried the disease to Africa and the Orient. Vasco de Gama brought it to India in 1497. It appeared in Canton, China in 1505, after the visit of Europeans. It was brought to Japan in 1569, when its appearance at Nagasaki was attributed to Chinese or Portuguese sailors.

Syphilis in Literature.—During the first two hundred years of its rebirth .

syphilis impressed itself on almost every type of human activity. The great writers of the Elizabethan period knew syphilis well in all its manifestations. Ben Johnson in *EVERY MAN OUT OF HIS HUMOR* referred to syphilis in unmistakable terms. Shakespeare was almost as well acquainted with syphilis as were the doctors of his day. For a brief poetical description of the physical evils wrought by the disease there is nothing comparable with that uttered by *TIMON OF ATHENS* when he is urging the two mistresses of Alcibiades to go forth to ply the trade of prostitution to the destruction of men.

One of the most conspicuous symptoms of syphilis, the coronæ Veneris was made by Shakespeare the subject of several jests in which the French origin of the disease is indicated by terming the eruption on the forehead the French crown. In *MIDSUMMER'S NIGHT DREAM* the players jest on the loss of hair which occurs frequently in syphilis. The "hollow bones" and the "profound sciatica" are allusions in Shakespearian drama to some of the principal symptoms of the later stages of the disease. Shakespeare knew of the contagiousness of syphilis because Lucio refused to drink out of a vessel previously used by a syphilitic.

With the passing of the years man became more familiar with the manifestations of syphilis. It was learned that syphilis existed in three stages. It was also learned that syphilis attacked every organ in the body. But it was only during the early years of the present century that any real progress in understanding the disease was made.

The Conquest of Syphilis is Begun.—

In 1903 began the first of the great discoveries about syphilis. In that year Metchnikoff and Roux demonstrated that it was possible to infect apes with syphilis. Two years later Schaudinn and Hoffmann ended the long search for the germ which caused the disease. In 1906 Wassermann, Neisser and Bruck found a means of applying a blood test for the diagnosis of syphilis. In 1911 Noguchi, indefatigable microbe hunter, succeeded in cultivating *in vitro* the germ of syphilis and completed the proof of the specificity of this organism by reproducing the disease in animals from his cultures.

All of these were discoveries of the utmost importance. Metchnikoff and Roux' successful inoculation of the chimpanzee with the germ of syphilis was the end of many attempts to produce syphilis in animals. The great John Hunter who was successful in all his other undertakings failed to produce syphilis in animals. For many decades other scientists had tried and failed. When Metchnikoff and Roux had shown how it was done it was an easy matter to infect other animals with the disease: monkeys, rabbits and guinea-pigs. But it was in the higher monkeys that syphilis was best developed and it was in them that it was best studied for the ultimate good of human sufferers.

The discovery of the germ of syphilis, the *spirochaeta pallida* was the successful end of one of the most persistent searches in the history of medicine. Since the beginning of germ hunting as a science the search for the germ which caused syphilis had been

incessant. Many announcements of its discovery had been made, and all had proved false.

Schaudinn and Hoffmann announced their discovery of the pale spirochaeta in May 1905. They found in abundance in the initial chancre, in skin sores and in glands. In 1911 Noguchi found that he was able to produce syphilis in animals by injecting the spirochaeta into their blood. The spirochaeta is a long, slender, corkscrew-shaped germ. It stains very faintly with all known germ paints, hence its name of pallida.

When Wassermann and his colleagues discovered the blood test for diagnosing syphilis they gave to doctors one of the greatest tests in modern medicine. The Wassermann reaction is most valuable in clearing up many confusing cases in which syphilis cannot otherwise be demonstrated. It furnishes evidence supplementary to other symptoms of the disease. It is a valuable guide in the treatment of syphilis. But perhaps its greatest use has been in making a general survey of the relation of syphilis to diseases of the body in general.

(To be continued.)

Good Teeth—Good Health

By

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GOOD teeth are like sentinels posted in the gateway (mouth), guarding the system against many diseases that try to enter into body. On the other hand, it has been proved that many diseases owe their origin to unsound, unhealthy and dirty teeth with a yellow coloured film on them. Gout and Rheumatism (a painful disease affecting the joints of the body), pernicious Anæmia (deficiency of blood in the body) and certain intestinal disorders are among these.

Decay (gradual destruction of a tooth by a cavity formed in it), bleeding from the gums and Pyorrhoea Alveolaris are due primarily and principally to the undisturbed deposit of food particles between the teeth or inside their pits and cracks. Fermentation then occurs, and an acid is formed which

attacks and dissolves the enamel—the uppermost shining layer of the teeth.

Once the enamel fortress is attacked, the softer dentine underneath is soon penetrated, and pain at length, gives warning that the nerve of the tooth is in way of approach.

The decayed tooth in a mouth is a breeding centre for millions of young germs which secrete or excrete poisons as fast as they multiply—poisons which are swallowed with the saliva and absorbed into the system. So to keep a body in a sound condition, the mouth should be kept clean of food deposits upon or between the teeth. For this purpose a tooth-brush and a suitable tooth powder or paste are necessary.

A cheap and a good type of brush can be made by chewing a green twig

of several plants especially the bayala (Acacia Arabica), Nimb or Karanja (Galedupa Indica). These plants are mainly used by the Indians as tooth brushes.

The teeth should be cleaned at least for fifteen minutes twice daily, preferably before breakfast and the last thing at night. The best time cleaning of the teeth with the brush or any other antiseptic powder or paste is ideal, and nothing should be eaten afterwards. Those who can find the time would do well to brush their teeth after each meal.

When cleaning the teeth, care should be taken to brush them up and down, as well as from side to side. Work the brush vertically between the teeth with quick, jerky movements. This ensures removal of matter that may be clinging in the crevices between the teeth. Don't neglect the insides of the teeth or the gums, which may be brushed vigorously.

Choose a reliable brand of tooth

paste or powder. Those containing much gritty substances which would damage the enamel should be avoided.

A suitable diet is of primary importance in the care of the teeth. Sweets favour decay and should be taken only in moderation. Hard foods which require chewing are as good for the teeth as the soft, sticky variety are injurious.

It is far more economical, as well as safer for health, to pay a regular quarterly visit to the family dentist than to wait until the urgent occurrence of decayed teeth drives you to seek his aid.

If the gums bleed readily, suggesting Pyorrhœa, an immediate examination of the teeth is indicated. Pyorrhœa, if allowed to continue unchecked invariably leads to loss of teeth.

Dear Readers ! Beware ! keep your teeth always clean and sterilised, visit your Dentist at least once every six months and get the defects, if there be any, removed.

“ How does the Suburban Extension of Towns Improve Public Health ? ”

By

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THE betterment of existing housing conditions, particularly by expansion into suburban areas, is the greatest need of the day and the issue involved in this statement was never more clearly praised, than in the speech of Our Most Gracious Majesty, the King Emperor in 1919. “ If a healthy race is to be reared ” said

His Majesty, “ it can be reared only in healthy homes ; if infant mortality is to be reduced and tuberculosis to be stamped out, the first essential is the improvement of the housing conditions ; if drink and crime are to be successfully combated, decent sanitary houses in open areas must be provided ; if unrest is to be converted into content-

ment, the provision of good houses may prove one of the most potent agents in that conversion."

It has long been realised, even before the exact reasons were understood, that improvement in housing conditions diminishes the incidence to diseases, like tuberculosis. The reasons are, however, complex. In addition to providing better amenities, better houses diminish chances of contact infection, afford better air and more sunlight, freedom from factory-smoke and dust-laden air, and tend generally to the well-being and uplift of mankind. Germs associated with disease lurk in squalid and congested town-dwellings. They are social climbers and many a palace is invaded with infection from a nearby neglected slum area.

Towns, like other human institutions, seldom stand still. Man, being gregarious, grouped his habitations originally for security and social intercourse. Many of our villages and towns afford examples of this kind where houses are built contiguously and without intervening spaces or gardens. As heavier materials were used for building construction, the town was enclosed within fortifications which in many cases restricted the area available for building. In this way congestion arose. The congestion increased when towns became important trading centres, attracting large numbers of people from rural areas, besides an ever increasing floating population. A town then, is essentially an instrument designed to meet the needs of the residents therein. As the needs change so will the features of the town change. With the increase in prosperity, a town, becomes enhanced in importance and

value, for various reasons. The traders prefer to live on their business premises. Fashion and convention, in some inexplicable way, decree what parts of towns shall be occupied by goldsmiths, grain merchants, money changers, potters, oilmongers, and even lawyers and each of these insists on living on his own premises. Competition is roused, rents rise, and houses meant for one family become insanitary tenements for five by the simple expedient of dividing walls and screens. As the servants and assistants must all be housed near their employers, overcrowding thus, becomes inevitable. The insanitary habits of the occupants and in some cases the *occupational hazards* arising out of residential and business premises being in one building, conspire with the overcrowding in the houses to make them unhealthy and readily susceptible to any infection. Narrow streets and tortuous lanes difficult to keep clean, add considerably to the dangers enumerated.

It cannot with truth, be said, that Nature is unkind or is responsible for the overcrowding in towns. It is the result of man's habits. Nature has plenty of space to offer. Why then this overcrowding? The old school folk do not hesitate to criticise the modern sanitarian, accusing him of new fangled ideas. You will often hear an old woman say, "In our time, we have lived in more congested homes with larger families, suffering greater poverty and with fewer conveniences and yet have reared dozens of healthy children, ourselves also keeping remarkably healthy."

Too high tribute cannot be paid to these courageous parents who in spite of the difficulties of large families,

limited means, most restricted accommodation and very few conveniences, have reared splendid, strong, highly principled sons and daughters. Yet the recognition of this courage must not blind us to the potent evils and grave dangers of overcrowding. Out of overcrowding arise the loss of a sufficiency of living air, the loss of a sufficiency of space for the development of the individual personally and socially. Cleanliness in person, in thought and in behaviour becomes difficult of attainment. Cleanliness in habits cannot be systematically practised. Privacy is quite impossible and the want of it, as any psychologist would tell us, is apt to dull the edge of fine feeling. The lack of the constant play of Nature's disinfectants in Sun, Light, and Air leads to stagnation—Nature abhors this—new and lower forms of life take insidious possession. Infections readily appear and spread rapidly.

Man, we are told, is the architect of his own fortune and he is also therefore the architect of his own troubles and diseases to a very large extent. So then with him lies his own salvation. The difference between the air outside—free, living, circulating, cleansed, purified by incessant change, and the air inside—confined, stagnant, polluted, provocative of the birth of lower forms of life inimical to Man—is the difference then between what Nature offers and what Man has chosen.—i. e., the difference between Health and Disease.

Now let me cite two concrete examples—the cities of Madras and Bombay. The quinquennial death-rate from tuberculosis in Madras has been round about 3.0 per mille and the infantile

mortality for the same period has been round about 270 per mille: while in Bombay the annual death-rate from tuberculosis is about 2.0 per thousand and the infantile mortality is round about 400 per mille. The total death-rate in Madras and Bombay has varied between 40 and 50 per thousand. These figures are very high as compared with those of most other countries of the world, and would probably be much higher, if more accurate statistics could be had. Infant mortality and tuberculosis may then be ascribed to poverty, overcrowding and insanitary habits of the people. The total death rate gives an index of the lowered vitality due to the same causes.

The greater incidence and prevalence of various diseases, communicable and otherwise—an exact appraisal of which is not however possible in our country in the absence of suitable laws and regulations compelling notification—also affords proof of the evils of over-crowding, poverty and unhygienic habits amongst town-dwellers. Drink, and crime are also more rampant in towns. These latter are fostered by ignorance, temptation and poverty.

It is needless to expatiate on the benefits and advantages of suburban extensions which are designed to cure the ills attending overcrowded town-life. The science of preventive medicine is now the method of choice in the war against disease. Suburban extensions of towns may then be described as the application of the science of preventive medicine to town-growth and human welfare. By suburban extensions, the sanitary conditions of life of a community are greatly increased, the susceptibility to infection is

greatly decreased, their vitality and powers of resistance greatly improved and lastly the ethical and moral side—bettered by the newer, cleaner and brighter surroundings—widen their outlook making them happy, humane, selfless and co-operating.

After his daily routine work in town, a suburban dweller returns home in the evenings to find suitable occupations for his leisure hours, in



gardening, or attending to the children, tending his cows or poultry and assisting his neighbours, whenever possible. The absence of temptations in the shape of taverns and alehouses helps him to engage himself in healthier and profitable pursuits.

The sanitary science of to-day is then the inevitable result of a most remarkable evolution. Its art and philosophy

extend beyond the individual, beyond all groups, classes and communities and over all artificial barriers and limitations. It implies all that makes for the betterment of Mankind—Brahmin or Harijan.

There are however one or two limitations that may be adduced against suburban extension, namely the increased cost of transport of the residents to the scene of their work and back and the possible increase in the cost of provisions. Absence of social amenities, in the form of clubs, theatres, cinemas, cafes, fairy-cities and King-carnivals would also form an objection with some, to suburban extension. The first of these will be set off by the necessary decrease in ill-health and doctors' bills and the consequent increase in the earning power of the resident. The second will be amply recompensed by the pleasures and fruits of gardening, dairying or poultry farming all of which make for added comforts and radiant health. The third will cease to attract if the mind is preoccupied with healthier pursuits.

Wisdom is the result of experience—often of a most sad and tragic kind. It is just possible that true wisdom comes only that way. The venture of life began in a garden; there are now voices loudly calling us for a return to open spaces to a recoverable land of Health, Happiness and Plenty. In fighting over-crowding by having recourse to suburban extension, may we not feel that an attempt is being made towards re-entering the lost Kingdom of the Garden?

How to Gain Weight

By

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OVER and over again the question is asked, "What foods shall I eat in order to put on weight?" as if one could solve the whole problem by sitting down and making out a list of foods. The problem of gaining weight depends on a great deal more than that. For one thing, it depends on the individual. One has to take into consideration the temperament and occupation, and so on, of the individual before the normal weight of that individual can be arrived at. Most people who are under-weight think that, if only they could reach the weight given for people of a certain height in the ordinary weight tables, they would have reached their goal. But these weight tables are all wrong. They do not take into consideration the individual. They just put down a standard figure, and that is all. They are not scientific.

The weight any person should weigh depends on many things. I believe, from my experience, that people who want to gain weight can be divided into three classes. First, there are those who are of small build. Their frame is small in proportion to their height and they are naturally slender. Into the second class come those whose muscular development is good, but who have little or no fat; while the third class is composed of those who have under-developed muscles and little or no fat to cover up the deficiency.

Nothing will Change them.--Those who

come into the first category, and are naturally slender, will find it absolutely useless to try to put on weight. They are naturally of slight build and nothing in the world is going to change them. For a man of that type to try to put on weight, in order to become big, is actually harmful. The usual method is to "stuff" with what are known as nourishing foods; but it is all wrong—in fact, that is the finest way to reduce normal good health to constant ill-health with consequent under-weight! That type of person will only lose weight by the "stuffing" process. I have known many people attempt that kind of treatment, in order to gain weight, who have ended in becoming less heavy. All this type can do is to keep well and fit. Let them keep to a proper diet, with a proper amount of exercise and a generally healthful regime, and I am certain they will stand a better chance of living longer, healthier lives than those who are fat. Statistics produced by the various insurance companies prove beyond dispute that, normally, this type of person has a better chance of living a long life than a fat one.

A person coming into the second class, with fairly well developed muscles, but little or no flesh besides, may do a great deal for himself by eating correctly and by making efforts to improve his general health. It is possible for a person in this group to put on a little weight with careful dieting.

The only person who is legitimately entitled to put on extra weight is the one coming into the third class, that is, the one with poorly developed muscles and little or no flesh to cover up the fat. His lack of weight is usually due to ill-health and malnutrition. He simply does not get the nourishment out of the food he eats, and until this trouble is put right, the more he eats the worse off will he be.

We are therefore brought to this conclusion, that the person who is really under-weight is suffering from wrong functioning of the body—faulty digestion, faulty assimilation, and a general lack of tone in the whole system. In a case of this kind it is important for the person not only to look after his diet, but to make every effort to put himself on a regime which will build up his general health. He will certainly have to look to his diet, but he will also have to pay particular attention to exercise.

The Value of Exercise.—Now, most people overlook the fact that proper exercise is of great value in gaining weight, yet I have known some cases where no change has been made in connection with the food taken, but in which, simply by following out a regular course of exercises, weight has been gained. There was ample proof of this in the time of the last war. Many youngsters enlisted in a weak, undernourished state, and just as a result of exercise, fresh air, and a regular life put on stones in weight in a very short time. And they gained health, too!

Therefore, those who really need to put on weight must first of all adopt an all-round healthful regime. Attention to the diet alone is not sufficient.

While it is an important factor, there are others which are just as important.

In these cases a fast is of great value. Why? Why should a person who is anxious to gain weight fast, and thereby run the risk of losing some of the weight he has?, is a question that might well be asked. Numbers of people think it is a terrible thing to expect a person already thin to begin to fast, because he will surely become thinner still. It is quite possible that he will, but, during even a short period of abstinence from food, his body will have had a rest and will afterwards be in a much better condition to assimilate and digest food when it is resumed. Therefore, when people of this type come to me and ask how they can put on weight, I always find it best to put them on a fast, first of all, even if it is only a very short one. This is followed by a proper diet, plenty of fresh air, and suitable exercise—in fact, by an all-round, health-building regime, which, if persevered with, will bring the person back to normal weight.

Proper Diet.—An exclusively milk diet is also of great value in some cases, because there is nothing which will put on healthy flesh more quickly than a solely milk diet following a short fast.

The milk diet consists in drinking half a pint of fresh, raw milk once each hour from 8 a.m. to 8 p.m., and it may be continued so long as the body shows an increase of weight. If there is a tendency to constipation, prunes or figs may be taken, as desired.

A diet for a person of the type under discussion should consist of the proper foods. It must contain all the essential food elements. There must be sufficient protein, sufficient starch, and also

sufficient fruits, salads, and vegetables, as in the case of any other type of person seeking to regain health.

The tendency to include a large quantity of the fatty foods in order to build weight is, I am convinced, quite wrong. The easiest way to upset the digestion (and therefore preclude the gaining of weight) is to partake of too much of the fatty things, such as butter and cream. Milk, eggs, sweet fruits, cereals, potatoes, vegetables, and meat may be taken, but the major part of the food consumed must be composed of fruit, salads, and vegetables. The book *Diet Reform Simplified* will prove very useful in helping to construct properly balanced meals.

I have also mentioned that exercise is important. Why is it important? Everyone knows that the continuous exercising of a muscle tends to make it bigger. One has only to look at a blacksmith to realise that. The wielding of his hammer day after day results in the development of huge arms. Why? the exercising of any muscle brings blood to the muscle. This increases the circulation in and around the muscle.

How exercise works in increasing weight.—Now, when the circulation is increased the nourishment is increased, because it is the blood that carries nourishment to the different parts of the body.

Therefore, if extra nourishment is carried to the arm muscles, as in the case of the blacksmith, it naturally follows that that part of the body will be bigger than the rest. That is how exercise works, and that is why proper physical exercises will help a person to gain weight. When he begins to exercise, the circulation of the whole body is improved. When the circulation is increased, the body is able to deal with more food and begins to demand more food, and a better appetite is noticed. This means that the body will assimilate its food better, and will gradually begin to put on weight as a result. Therefore, it will readily be seen that while exercise is important for all those who are seeking to live healthful lives, it is particularly important to the person who is trying to gain weight.

Outdoor exercise, plenty of fresh air, a sensible diet, and other healthful, regular habits of living are the essentials to gaining weight, and if these are preceded by a short fast of, say, from three to seven days, followed by an exclusively milk diet for a week or so, the object will be attained even more rapidly and satisfactorily. During the fasting period an enema should be taken each day. What I have described forms the only rational and effective way of achieving the object in view.—*Health for All*.

"Learn as if to live for ever
Live as if to die to-day."

What shall We Drink?

MEAL TIME BEVERAGES IN THE LIGHT OF MODERN RESEARCH

By

O. V. HELLESTRAND

WHEN we consider the thousands of plants that could have been used for making beverages, it is remarkable that mankind should have picked on about six extraordinarily alike in action, though most unlike botanically—tea in China, coffee in Arabia, cocoa in Central America and West Indies, mate in Paraguay, guarana in Brazil, and kola-nut in Africa. The “active principles” of these are practically identical; in fact, they are absolutely identical with the exception of theobromine in cocoa, which however, differs too slightly to matter. The active principle is caffeine in varying amounts, and it is to this that their stimulating effects are due.

Tea, coffee, and mate are all straight-out stimulants, and apart from the milk and sugar used in preparation, their food value is nil.

The evils arising from the use of tea, coffee and similar beverages are more numerous than most people realize. People who are dyspeptic, nervy, shaky, grouchy, irritable, or impatient, could frequently trace their troubles to the use of these beverages. Their free use is more injurious than the mild use of alcoholic drinks such as wine. The poison in alcohol is readily eliminated, being volatile, but the caffeine of these drinks is not only more toxic, but also has a tendency to accumulate in the system. The effects of these drinks on the nervous system is most pernicious. This can readily be seen in the shatte-

red nerves of the users of these mild intoxicants.

The increasing consumption of tea, coffee, and mate in this country is due to the extensive advertising campaigns organized by the distributors of these drugs. The claims of the distributors concerning the virtues of these drinks render necessary a warning as to the dangers arising from chronic caffeine poisoning.

Caffeine produces a kind of stimulation which forces the cells of the body to do more work than they would naturally do, but without repaying them by replacing the energy which they expend. Such stimulation of the cell is unnatural and always harmful. When one feels unfit, the condition that seems to call for stimulation, it is most likely because the cells are lacking in stored energy, like a run-down battery. They need charging by food intake or rest, or both.

Caffeine destroys the sense of fatigue, but does not in any way whatever repair the vital losses which result from work. It only increases the losses.

Dr. Nansen, the famous Arctic explorer, says:—

“My experience leads me to take a decided stand against the use of stimulants and narcotics of all kinds, from tea and coffee to tobacco and alcoholic drinks. It must be a sound principle that one should live in as natural and simple a way as possible, and especially when the life is a life of severe exertion

in an extremely cold climate. The idea that one gains by stimulating body and mind by artificial means, betrays, in my opinion, not only ignorance of the simplest physiological laws but also a want of experience by observation."

Indulgence in tea and coffee is particularly harmful in kidney disease, heart disease, and high blood pressure. It makes the kidneys and heart work overtime instead of lightening the load.

A Japanese professor has stated that he believes that tea is one of the outstanding causes of cancer.

Dr. Bullard, after the study of large number of cases, has arrived at the following conclusions:

(1) That the action of tea is cumulative, and is most pronounced on the young and those in a depressed physical condition, although persons otherwise healthy not infrequently show poison symptoms.

(2) That as a rule, in adult women the average amount needed to cause poison symptoms was a little less than

five cups daily; and,

(3) That chronic tea poisoning is a frequent affection, the most common symptoms of which are loss of appetite, dyspepsia, palpitation, headache, vomiting and nausea, combined with nervousness, and hysterical and neuralgic affections frequently accompanied by constipation and pain in the region of the heart.

Dr. J. H. Kellogg says he has seen many cases of blood pressure drop twenty to forty points after the disuse of coffee, and with a very noticeable improvement in health.

I have recently been asked my opinion of mate, or Paraguayan tea, as efforts are being made to introduce into England this caffeine-containing product of South America. Many claims are made concerning the virtues on this mild intoxicant, but these claims can be viewed in the same light as the claims of patent medicine vendors. But the properties of mate are essentially the same as those of tea and coffee.—*Good Health, (London).*

Effect of Unemployment on Health

[Abstracted from address by E. KayeLe Fleming M.A., M.D., at Royal Sanitary Institute, Health Congress, Bristol, England, July 1934]

DR. FLEMING presided over a Committee of the British Medical Association appointed to investigate this problem. He says that whereas most inquirers will be satisfied that there is no evidence to support the view that unemployment has led to a general increase in sickness attributed to malnutrition or to delay in recovery from sickness: as to the less obvious and indirect consequences of unemployment, these are recognized as having a more

serious effect—the reactions affecting the mental processes which are bound up in the question of health, where the mind and body cannot be dissociated.

Dealing with the loss by disuse of specialized experience, it is found that unemployment is followed by the gradual deterioration of these specialized faculties, and the longer the period of enforced idleness, the less efficient the skilled workman becomes, and the greater the danger of failing to retain

his job, should opportunity of employment arise. Here is one reason for the economic loss in general schemes for the provision of work for the unemployed. The attraction of an offer by the State to pay a high percentage of the cost of labour to employers embarking on constructive schemes, is often more than offset by the estimated increase in cost if the work is to be done by the unemployed.

The mental effect of unemployment upon the worker who is thrown out of a job is dealt with. His first reaction is probably depression, with a sense of degradation in the loss of respect that follows the sense of not being self-supporting. With this is coupled anxiety to obtain work. Depression and anxiety are important factors in estimating health in its full meaning. The man used to employment and thrown out of work makes repeated and unavailing efforts to obtain employment. These efforts will gradually sap his energy: he will tend to give up trying and wait for better times to come along. His anxiety will turn to indifference; he will grow accustomed to live at the expense of others. The better the workman, the more robust his character, the more gradual the change, but, speaking generally, the process is inevitable. The slackening of effort must be accompanied by moral deterioration. In the more unbalanced mind indifference may well lead to despair, and even to suicidal tendencies.

In broad contrast to this class is the even more serious one of those, who, coming on the labour market at the commencement of their career, have never learned what employment means. The discipline of work in the early

plastic years of young adult life cannot be rated too high as an essential factor in the formation of character.

The effect of unemployment on the younger man has been disastrous. He has not only failed to acquire the habit of work and the self-respect that goes with it, but he has learned to loaf. He is indifferent to the prospect of a job and not eager to find one. From being content to exist on the work of others and the money thereby supplied, he has drifted into the frame of mind that it is right and proper that those who work should support those who cannot; that it is the business of the State and not his own, this question of work. It is not his job to find work but that of the State.

Between these two broad pictures of distinct classes lies every grade of intermediate conditions, but the longer a high rate of unemployment remains, the more steady the decline from the first to the second class.

Dr. Fleming makes it clear that what he means by moral deterioration is not in relation to crime, drink, gambling and betting or sex offences. All my observers agree, he states, that there is no evidence of this kind. But they all agree, and agree most emphatically, that there is moral deterioration in the sense of loss of energy, character, will-power and the like. Moreover, they make the big distinction between the older men who have been thrown out of work and the younger men who have never known what regular work means. In the great battle of industrial life, as in the great battle of life in general, victory goes to the strong, and in the struggle for existence the weak go to the wall.

Economic conditions have thrown

out of the ranks thousands of well-trained soldiers who are getting out of condition, whose weapons are rusting and who meanwhile are in danger of losing their enthusiasm as well as their efficiency. At the same time thousands of young potential recruits are getting no training either in discipline or the use of the weapons they will one day need in active service.

The health of the industrial worker

is the key-note to health of the nation as a whole.

The conclusion arrived at is that while in the main the first needs of health in the form of bodily sustenance and nutrition are being met, there is urgent need for the extension of the machinery for developing and maintaining the efficiency of the mind and body by the provision of training centres and similar organizations.—*National Health Review.*

Health Tit-Bits

Heroes Unknown.—*The Children's Newspaper* gives some thrilling tales of many who in recent years have risked their lives to make the world a safer place for us. In order to test the value of the dangerous hydro-cyanic gas for exterminating vermin in houses, a great scientist went into a sealed room with a dog, and breathed hydro-cyanide gas. The dog died in one minute, but the man lived. Two other men carried out an experiment to find how long men could breathe oxygen at a certain concentration before escaping from a sunken submarine. It was known that oxygen becomes poison under certain concentration, but these two breathed oxygen until one got convulsions, and the other had a severe epileptic fit and was unconscious before oxygen could be turned off. A third scientist wished to find out whether the body louse carried the germs of typhus fever. So he fastened some of these disgusting creatures on his own body, with the result that he contracted the disease and died. To such nameless heroes do we owe a debt that can never be paid.—*The Treasure Chest.*

Finger-prints as an aid to the prevention of the spread of disease:—The suggestion that fingerprints, which now aid in the prevention of crime, may help in the prevention of the spread of disease was made by Dr. Heinrich Poll, of Berlin, in addressing the Congress of Anthropological and Ethnological Sciences at London, Eng. Dr. Poll, who said that during his twenty-five years of investigations he had examined more than 200,000 recorded finger-prints, described his methods, not only of determining by finger-print characteristics the racial or ancestral group to which an individual belonged, but of tracing inherited tendencies. He emphasized the importance from a medical standpoint, of the discovery that inmates of a mental asylum might be distinguished from sane persons by their finger-prints. He declared that during the outbreak of infantile paralysis he found victims that belonged to one group all possessing the same characteristic features in their finger-prints. Similar results were obtained with persons affected with certain other diseases.—*The Medical World.*

The value of a Laugh.—It is said that every hearty laugh in which a man or woman indulges tends to prolong life, as it makes the blood move more rapidly, and gives a new and different stimulus to all the organs of the body. Therefore, perhaps the saying, 'Laugh and grow fat,' has a foundation in fact. No truer words were ever uttered than those lines of Ella Wheeler Wilcox:

Laugh and the world laughs with you;
Weep and you weep alone.

"The jolly, wholesome, happy-hearted people are those who have most friends and see the best that life holds out to them."—*Good Health*. U. S. A.

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Alcohol and Efficiency.—"Alcohol taken at the mouth rapidly entered the blood stream, and the effects of a pint of beer remained with the subject for twelve hours. During this period harmful effects on the nerves and other systems were produced.

"This was a most important matter from the point of view of driving motor-cars, aeroplanes, or other mechanically propelled vehicles. Abstinence from alcohol was absolutely necessary for perfect safety in these cases. If you want to be 100 per cent. efficient, do not take any alcohol."—*Sir William Willcox, K.C.I.E., C. B., M. D.*—*Indian Temperance News*.

Diet in Pregnancy.—The mother's diet, during pregnancy and lactation, ought to include:

2 pints of milk daily.

1 or 2 substantial servings of green vegetables—cabbage, spinach or lettuce—daily.

1 or 2 eggs or egg yolks daily.

An apple or orange or some fresh fruit daily.

Sea fish twice or more a week.

Calf's liver once a week.

If cod-liver oil can be taken, 2 teaspoonfuls daily is advisable.

The rest of the diet can be made up as the woman wishes.—*Dr. Edward Mellanby, in Lancet (London), Nov. 18, 1933.*—*Illinois Medical Journal*.

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Vitamin C.—Very young babies are their own suppliers of vitamin C. This, the antiscorbutic substance found in fresh vegetables and fruits, orange juice, etc., without which, grown-ups cannot live, is manufactured in the body of infants to the age of 5 months, it is reported to *Nature* by Paul Rohmar, N. Bezsonoff and Ursula Sanders, from the medical faculty of the University of Strasbourg. After the age of 5 months the infant gradually loses the faculty of producing in its own body this valuable substance, its power to do so disappearing entirely at the age of 14 months. Thereafter it must obtain the vitamin from food.—*Medical World*.

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