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SEX HYGIENE

III

(Continued from P. 238 Vol. X No 11.)

We shall, in closing, make a few observations on puberty, marriage and morality, which are indispensable for a proper understanding of the subject. A boy is said to attain puberty at the age of fourteen and strange transformations take place both in his mental and physical conditions. He is no longer the boy 'with satchel in hand and shining morning face going unwillingly to school'. He casts amorous glances at the other sex, his sex organ has developed, hairs appear on the upper lip, chin and the pubes, his voice is getting powerful and the general build-up of the body indicates strength and virility. In girls, the period of puberty is marked by menstruation among others. Generally, in India, the age of puberty is between 13 and 15 for girls. There are some who attain puberty even earlier at

11 and 12. Menstruation is generally associated with pollution in our country and among the higher castes, women are segregated for three days during the monthly course and are not allowed to touch anything or approach anybody. Menstruation is only a normal function of a female and there is no harm in their remaining within the house, as is the case with the lower castes, provided they are scrupulously clean. Evidently the orthodox section, by way of abundant caution, has kept them aloof, lest they might be approached by their husbands during the period, which is forbidden and they might be lacking in that scrupulous cleanliness, which is desirable but seldom practicable. While we are prepared to endorse and uphold the orthodox view point of complete segregation, we are constrained to

remark that some of the habits of the women in menses, are too unhygienic and too horrible to be described. One of those habits is the use of old worn-out rags as napkins. This causes irritation in the private part and gives room for plenty of pathogenic organisms to enter the system and cause diseases. The same rags are preserved for ages and the sooner this nasty custom is given up, the better. The napkins must be fresh and clean and must be discarded every time after use. The money spent on this, which is but a trifling after all, will be money well-spent.

Now, we come to marriage. In order that the sex appetite arising in males and females may be appeased, they ought to unite in wedlock. The question of respective ages at which marriage should be consummated, has already been thrashed out in previous issues of 'Health' and we need not therefore discuss them again here. Suffice it to say that the marriageable age of a male should be not less than 21 and that of a girl 16.

Self-choosing of the bride or Swayamvaram was the ancient custom of marriage in India, well-known by the epic tales of Damayanti and others. Latterly swayamvaram was permitted only in cases where a girl was an orphan and had no parents or relatives to give her away in marriage. Wooing, as practised in the West is unknown in India and as it is a dangerous rock against which the ship of morality often hits and founders this practice should never be permitted to invade the Hindu Society. To-day the prevailing rule in India is that parents should give away their daughters in marriage and a very great responsibility, therefore, rests on them in the matter of selection of bridegrooms. The

sale of one's daughter was strictly prohibited, in Hindu Sastras. "Not even a Sudra, when giving his daughter in marriage, should take marriage money for, by taking marriage money, he makes a secret sale of one's daughter," so says Manu. This practice was widespread in Southern India, till recently, when the tables had turned. We now have the sale of bridegrooms instead and large sums of money are demanded as 'Varachukam'. The crime becomes all the more obnoxious, when the offenders happen to be the intelligentsia. Moderation is the keynote of marital life. Too frequent coitus and coitus during menstruation, during pregnancy and lactation should be avoided and the couple should always be pure in thought, word and deed. The cleansing of the sexual organs before and after coitus is stressed as it would help in warding off various diseases. Divorces are rare in India. The ancient laws of the land have given either party no easy handle to abandon each other. If a girl has any defect, the parent should make it known to the husband before marriage, otherwise he is liable to be punished. "If a girl is crazy or leprous or has lost her virginity and the one who gives her away in marriage, has exposed these defects before marriage, he deserves no punishment." A husband can only abandon a girl whom he has married, if he finds her "blameworthy, sickly, very corrupt, or married to him by fraud". The wife should wait for three years before abandoning her husband who has transferred his love to another, while the husband should wait for one year only, before abandoning his wife who hates him. These are some of the ancient divorce laws of India which are resorted to only in extreme cases. For,

morality is a virtue that is deep-rooted in the minds of the Hindus and so long as marriage is held to be a sacred, religious consecration, to be visited with divine grace, bliss and happiness in this and in the world beyond in case of right conduct and untold horrors and miseries not only on them but even on

their progeny, in case of transgression, there is little room for the commission of sexual offences.

"Let there be mutual fidelity ending in death alone; this, in few words, should be recognized as the highest law of duty for man and wife". (*Manu IX. 107*)

THE HEALTHFUL QUALITIES OF CARROTS.

BY

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Those physicians who have been watching the progress made in that branch of medicine known as therapeutics have noted that in the past few years some rather common fruits and vegetables have become endowed with some rather remarkable qualities. First it was the lemon whose juice was found to be a positive preventative against the dread disease scurvy. Later it was found that the juice of the orange and the tomatoe was equally as valuable. Within the past two years banana reduced to a powder was found to be of great value in the correction of certain forms of constipation in infants, which hithertofore was regarded as a very desperate disease requiring a desperate remedy. Still later a famous German stomach specialist established the fact that raw apple was almost a specific in certain devitalizing forms of diarrhoea. It seems to me that the real medicinal agents of the future will be in the fruits and vegetables rather than in the harsh mineral salts and poisonous alkaloids at present in vogue.

The very latest of the vegetables to be accepted by physicians as a medicine

of great value is the humble garden variety of carrot. As a matter of fact carrots were always esteemed as possessing medicinal properties. The classical writers had quite a great deal to say about the curative properties of carrots. They almost invariably referred to the Cretan carrot and almost entirely to its seeds (fruits). Arounf (1651) Culpeper expressed unbounded faith in the medical attributes of carrots. It was entirely due to Culpeper that carrots found a very important place in the changing formulas of the great theriacae (antidotes against poisoning of all kinds) from the time of Mithridates of Pontus down to the early issues of the London Pharmacopeia, in which the carrot "seeds" were official for compounding the antidota. Carrot was much thought of by physicians for many years as a valuable antidote against poisons of every description. The ancient king, Mithridates, whose chief glory lies in the fact that he was the greatest poison eater of all times, rated the carrot above all others as a vegetable of purifying the blood of its poisonous elements.

For a time the roots of the garden carrot—*Daucus nostra*, as our great grandfathers called it—were recognized as an official drug in the great London Pharmacopeia, the collection of all worthwhile remedies at the disposal of mankind. This great work has been published continually for several hundred years and carrots as a medicine was first mentioned in the 1809 edition and continued strongly in favor up till the edition of 1851.

Towards the end of the 18th century the roots of the garden carrot were recommended for use as a poultice for suppurating sores, and they seem to have been employed extensively—in fact so much so that the remedy attracted the attention of physicians. Fresh and juicy carrots were grated and mixed with water to a suitable consistency and applied two or three times a day. It is stated that frequently “cancerous and phagedenic ulcers” were cured by this means alone, and that generally there “was a great amendment of the state of the sore.”

This newly discovered use of the common carrot as an external remedy of such pronounced value attracted the attention of Dr. Richard Walker of Oxford who gave this remedy a great deal of thought, and published an account of his inquiries and observations in ‘OBSERVATIONS ON THE EFFICACY OF CARROTS IN THE CURE OF ULCERS AND SORES’ in 1806. He followed this up by writing in the *PHILOSOPHICAL MAGAZINE* another article ‘OBSERVATIONS ON THE REMARKABLE EFFICACY OF CARROTS, UNDER A NEW MODE OF APPLICATION, IN THE CURE OF ULCERS AND SORES.’ The new mode he adopted was to slice the carrots transversely (not longitudinally, as usually recommended), boil until quite soft, and

then beat to a moist pulp with pestle and mortar.

Dr. Walker’s account of his success with the carrot treatment at the Radcliffe Infirmary is most impressive. He says that some have thought the beneficent results were due to carbonic acid which the sore “imbibed” from the carrots. He thought it was to be ascribed to what he called the “mild anti-putrescent quality of the remedy.” In view of the new light now having been thrown upon the remarkable activity of carotin (the pigment found in carrots) one wonders whether it is not here that the “antiputrescent” properties reside.

While the value of carrots as an external remedy has been highly regarded for many years, it is really its use as an internal remedy that it is now being proclaimed, and this rests on a surer scientific basis. Within recent years biological chemists and physicians working in the research laboratories have been directing their energies in dissecting the vitamins, those very important food elements. They have even gone further, they have discovered substances which give rise to vitamins. These are the pre-vitamins. The one most thoroughly understood at the present time is carotin, the substance which gives the carrot its color and which contains all the essential elements of the carrot.

Thus carotin, the very soul of the carrot can now be obtained as a very real substance, and in pure crystal form. This contains vitamin A which is so necessary for bodily growth and health. It is also needed for the development of strong teeth and bones, for healthy resistance against spontaneous infection.

Its intimate association with the maintenance of a healthy blood stream is generally conceded.

Carotin of course is not given alone. It is generally mixed with cod liver oil and thus affords another very important vitamin, vitamin D. Child specialists have now begun to use carotin in oil for routine child and infant feeding to assure proper growth and development. It is as important as cod liver oil. But its usefulness does not stop here. It is also of great value in the feeding of adolescent children and nursing mothers. In patients recovering from operation and thus who are anemic,

carotin is now used with remarkable results.

While the carrot of course contains carotin it would require quite a great number of carrots to effect a cure if one uses carrots with that view in mind. Carotin is a very concentrated substance. However, carrots still remain a very desirable vegetable, in fact, even more so, in view of the fact that it is now the source of a very important medicine. The humble carrot, together with the humble lemon, apple, tomato and spinach have established themselves not only as very useful fruits and vegetables, but also have risen to great heights as medicines.

THE GOOD LIFE.

BY

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It was Plato who remarked that "attention to health is the great hindrance to life." Though a cynical saying, it is pregnant with meaning in the sense that to have to spend time over illnesses is really time wasted and is thus a real hindrance to a smooth sojourn in life. Austere philosopher as he was, Plato must have keenly felt the want of health rather too heavy a deadlock in the path of his prolific and progressive mental career. Great men at all times have given us volumes of such pithy expressions, comprising the conglomerated experiences of a life-time. These should certainly lend us enough food for thought, and guide us in chalking out a career of our own.

Every individual desires to lead a happy life according to his or her own

conception. There is no happiness without health, and to lead a good life without health is unthinkable. It may be difficult to decide as to what constitutes a good life, but one thing is certain that one cannot lead a good life by being an ignoramus. Bertrand Russel, a great modern thinker, defines a good life as one "inspired by love and guided by knowledge." Knowledge is the foundation for everything that goes to make up for human happiness. Just as knowledge is the source of all that is good in life, so also ignorance is the precursor of all blemishes therein. So, first of all we must get to know ourselves if we are to embark on a good life, a life unhindered by diseases and one that looks upon health as a bounteous gift of God.

The real seat of health is in the brain. Physical health is unattainable without mental health. Hence, mental culture is the first step in life. Philosophers say that happiness and sorrow are only two different states of the mind. Our activities are so intimately blended with our mental state that we cannot but give it the first place among the factors that shape our destiny. Good thoughts, kind wishes, sympathy, love and cheerfulness are qualities to be cultivated by everyone of us. These develop a calmness of our nervous machinery, so important for good health.

Be conscious of your humble origin and have faith in a divine power that

guides you. Begin and end your day by offering prayers to that divine power. Keep yourself always engaged in some good work as "an idle brain is a devil's workshop." Have simple habits and be spare in your diet. Be active and let every limb of your body show its sprightliness. Remember the motto "fresh air and the open window" of Queen Victoria who lived up to a ripe old age, leading a healthy and good life. Let not worry eat like a canker into your soul. These ideas are not new, being familiar to all. But it is no good simply knowing a thing unless it is put into practice and its benefit reaped. Hence, if good ideas are translated into action the result will be a good life.

THE EYES OF THE CHILDREN.

BY

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These few rules about the care of the eyes will be found useful. You ought to know that there is a great public effort being carried on at the present time to eradicate the disease of the eyes of newborn infants, called ophthalmia. Midwives are instructed to wipe the eyes of the baby the moment it is born, and to place in the eyes a few drops of a mild antiseptic, which will destroy any germs that may be present. It is sad to reflect that about one-half of the cases in blind asylums owe the terrible deprivation of the light of the sun to the neglect of this simple precaution. Nothing stands between the absolute and complete elimination of this disease and the effort of the doctors and midwives but the

ignorance of the public. The medical profession could stop it at once, but the people are so slow to learn that it takes years and years of constant hammering to get a simple truth like this acknowledged and acted on. Young people contemplating matrimony will not devote one hour of their lives to acquiring knowledge essential to the welfare of their future offspring. And so the little baby has to go to a blind asylum.

SQUINT EYE.

As the children grow up a squint may develop. This indicates that one eye has stronger sight than the other. The turning of the eye can be remedied by wearing suitable glasses. It is wrong

to leave the whole thing to chance and say that the child will get out of it if he has a bottle of strengthening medicine. The glasses need not be worn after the squint has been cured. When the child goes to school and reaches an age when lessons have to be learnt at home, the parent must see that the child reads and writes in a good light. The light should come from behind and fall over the left shoulder. Children cannot be trusted to look after this themselves; they will often read by the flickering light of a fire. Lucky is the child that prefers playing in the open air to poring over books. The child that is too studious must be encouraged to give his eye a rest and go out to join the fun.

PARENTS' DUTY.

Parents must satisfy themselves about their childrens' eyes. It is absurd to leave everything to the school doctor. When the school doctor notices the defect, perhaps it will be too late to effect a permanent cure. It must be

the duty of every parent to discover the defects and get them cured while the child is young. It is not an impossible task for an intelligent man to pin a newspaper up at the other end of the room in a good light and ask the child to read the big letters first, with one eye and then, with the other.

EYE GLASSES AT FIFTY.

As we grow older the sight of the eyes grows longer. We can see more comfortably if we hold the book at arm's length. Most of us need glasses for close work about the age of fifty. Many a man boasts that he can see the church clock a mile away but that is not the point. The eye of fifty can accommodate itself to long vision; it is the close vision that gives the eyecache and headache. You must have your glasses ordered specially for you. It is no good buying a pair in the bazaar or borrowing from some one in the street or wearing the nice gold-rimmed pair that granny left when she died.

PASTEURISATION OF MILK.

BY

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Many have hear the term "Pasteurisation", but very few have any clear idea about its meaning. Pasteurisation takes its name after the famous French scientist, Pasteur, who was the first to originate the process. He made use of this process for rendering wine safe for human consumption. Later, this process was adopted for treating milk.

WHAT IS PASTEURISATION?

Pasteurisation is a process by which milk containing harmful and patho-

genic germs is rendered safe for human consumption. Briefly, this process consists in heating the milk up to a certain temperature, maintaining it at that temperature for a definite period and then suddenly cooling it down to a low temperature. The recognised system adopted almost universally is to heat the milk by hot water or steam (not by fire) to a temperature not below 145°F and not above 150°F, to maintain it at that temperature for half an hour and then suddenly cool it down to a tem-

perature not above 55°F. This process cannot be efficiently carried on without proper equipment and without expert supervision.

PASTEURISED MILK vs. BOILED MILK.

There is a gulf of difference between pasteurised and boiled milk. The chief points of difference are :—

(1) 'Pasteurisation destroys all pathogenic (disease producing) bacteria that may be present in milk. Even careful boiling for a short period does not destroy all pathogenic germs. Only prolonged boiling destroys them. It is a well known fact that milk acts as an efficient carrier of disease germs. We will take for instance tuberculosis, which even children born of tuberculous parents do not imbibe at birth. It is



Curd, exposed for sale and subject to the ravages of flies &c., is consumed, giving rise to infections such as cholera, diarrhoea, &c.

only after birth that the child imbibes the infection either from infected mother's milk or from infected cow's milk as the case may be. That bovine (cow's) tuberculosis is communicable to human beings is well established. So we see how very important it is that vigilant steps are taken to eliminate all cows suffering from tuberculosis

from the city milk supply. In England it has been estimated that more than 50% of the cows suffer from some form of tuberculosis and this accounts for the various grades of milk as Certified, Grade A, Grade A (Tuberculin tested), Grade A (Pasteurised) and Pasteurised. The producers of Graded Milk have to conform with definite laws and should have their cows tested at definite intervals. In the United States such severe steps are taken to check the spread of the disease that in some cases pasteurisation is compulsory except for milk of the highest grade. If the Veterinary Department were to apply tuberculin test to all cows in a thickly populated city like Madras, one would be astonished at the alarming number of apparently healthy cows reacting to the test. Such apparently healthy cows are milked in the streets and the lay consumer deceives himself into the belief that he is getting safe milk. And unfortunately for them, the incubation period, i.e. the period elapsing between the entry of the germ into the body and the appearance of the early symptoms of the disease in the case of tuberculosis is very long, sometimes several weeks, months or even years.

Pasteurisation unlike boiling leaves the vitamins unaffected. Boiling on the other hand destroys all vitamins, except vitamin A which is also partly affected. The question of vitamins has not received the attention it deserves. The prevalence of rickets (leg weakness) and sore eyes among growing children is mainly due to want of vitamins in boiled milk, which is almost universally fed to children. Instead of feeding children with natural cow's milk containing all vitamins necessary for growth, we feed boiled milk devoid of vitamins, and as a supplement, we feed

cod liver oil and fruit juice in order to make up for the vitamin deficiency. Pasteurisation does away with any such supplementary feed, which at best is only a stop-gap. The various Child Welfare Centres in the city may with advantage try Pasteurised Milk for infant feeding and conduct comparative feeding trials with pasteurised and boiled milk for the guidance of the public.

(3) Pasteurised milk keeps for a longer time than boiled milk, which is a decided advantage in the tropics. This is due to the fact that pasteurisation reduces the total bacterial count of milk by nearly 99%. If kept at a temperature not higher than 55°F, it will keep sweet for more than 36 hours. This could easily be done by keeping the milk container dipped in cold water with a few pieces of ice in it.

(4) Pasteurisation renders milk more easily digestible by not coagulating

(solidifying) the albumin in milk. Boiling coagulates the albumin which forms a layer on top of the milk. Even as a fully boiled egg is harder to digest than a half boiled egg, even so, fully boiled milk is harder to digest than pasteurised milk. The albumin as present in milk is in colloidal form which is easily assimilated by the body, but in its coagulated form it is very hard to digest.

(5) Boiling, besides, gives the milk a very unpleasant cooked taste and sometimes a scorched flavour, which is not liked by most children. This is due to the partial caramelisation (scorching) of the milk sugar. Pasteurisation does not impart any such flavour, but leaves the milk in its natural freshness.

For want of mother's milk, the next best food for growing children is Pasteurised Milk slightly diluted with water with a little sugar added in order to bring the cow's milk nearer the composition of mother's milk.

INDIAN DAILY HYGIENIC LIFE

BY

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(Continued from P. 243. Vol. X No. 11.)

Clothing.—Is necessary to protect the body from the extremes of temperature and injury, to keep the body warm and for personal decoration and ornamentation and comfort. For the selection of the materials of dresses one should see that the healthy action is maintained and such dress should be light and warm and the choice depends on climate and the person using. Materials should not be irritating or poisonous as cloths

are sometimes coloured with poisonous dyes e.g. arsenic. Moreover, the materials used for cloths should be porous with power for absorbing moisture e.g. flannel and gauze bannians. Tight clothes should be avoided as they interfere with circulation, respiration, digestion and action of muscles. In loose fitting garments there is a stratum of air between the skin and the dress, which has an important bearing in

keeping the body warm, and thus, clothing really acts as an adjunct to food so that in cold climates the warmer a person is clad the less food will he require. Young children should be well clad. Undue deprivation of clothing may have injurious effects on their health, growth and development as the child has only a certain amount of nerve force for vital function of breathing, digestion, etc. and if an undue amount of this is expended in maintaining body heat, other functions suffer resulting in indigestion, constipation and diarrhoea, etc. *Cumberbund*—a chill in hot climates leads to serious intestinal troubles to Europeans and a flannel binder or cholera-belt should be worn specially at night as the abdomen is likely to get chill by the draught of the punkha or fan which is often kept going on whole night.

Stockings and Socks—made of wool should always be worn with shoes or boots. These should be daily sunned as they smell badly by perspiration. *Boots and shoes*—should form to the normal outline of the sole and should be soft and pliable. They are good protectors against bites of mosquitoes and accidental snake biting on the covered parts of the foot.

Mosquito-nets—Every one should have mosquito nets to protect himself against the bites of mosquitoes, specially anopheles and so from malaria as 'no mosquitoes no malaria'. Mosquito-nets also protect one against any accidental biting of any animals, mammals and insects.

Cleanliness of persons cannot be maintained without keeping cleanliness of clothing. All sorts of dresses or clothings should be frequently kept clean, sunned and dried. Indian dhobies sometimes wash clothes in dirty

water and moreover some dhobies possess dhobi itches. It is to be noted that diseases may be contaminated from the washing of clothes in dirty water as well as from dhobi itches. Precaution is necessary in these respects. There are innumerable kinds of dresses and clothings of mankind of different communities which cannot be mentioned here. Hygienic importance on all sorts of these things should be attended to as far as practicable.

Exercise.—Albutt in his system of medicine Vol. I, says about the utility of physiological exercises as follows—(1) To develop the weakly and the overgrown. (2) To restore those convalescent whether generally as from illness or locally as from injury. (3) To correct during youth various deformities. (4) To relieve certain conditions—as debility and obesity. (5) To relieve condition after certain lung diseases. (6) To preserve the healthy tone of the body of those who by necessity or habit, virtue or vice cannot do so in their ordinary life. (7) To enable the body to counteract the baneful effects of educational efforts focussed on the mind. (8) As an educational measure for the mentally deficient. According to Parkes, a man takes about $8\frac{1}{2}$ ounces more of oxygen on a work day than on a rest day. Exercise excites demand for oxygen required for the utilisation of food and promotes repair and formation of tissues so the easy and effective works of the organs of the body are performed and following are the effects of such exercises on the system.

Respiratory system—Pulmonary circulation is quickened, the amount of air inspired and carbon expired, is greatly increased. It is obvious that increased output demands increased supply of food and fresh air.

Circulatory System.—Active exercise increases the force and frequency of heart beat and acceleration of circulation followed by depression.

Muscular System.—Growth and energy of muscles increase.

Cutaneous System.—Exercise leads to the engorgement of vessels with the increased perspiration which is being evaporated. During exercise there is less danger of chill as the loss is replaced by the rapid supply. After the exercise the risk is great and hence body exposed during exercise should be covered and protected for undue loss of heat. After that body should be washed and sponged and since exercise increases elimination of water, salt, carbon and nitrogen from the body, it is essential that these should be replaced.

Urinary System.—Excretion of urea is unaffected but uric acid is increased.

Alimentary System.—Action of the bowels is regulated.

Nervous System.—Men engaged in brain work must recreate themselves with active exercise which leads to perfect performance of mental work.

Riding, rowing, swimming, walking, running, games on foot ball and cricket, gymnastic, Hadodoodo, lawn tennis, hockey and like other out door exercises are good sorts of active exercises and these should be moderate and suited to the constitution. Excessive exercise is injurious to health as this brings on nervous, muscular and mental fatigue and diseases of heart, such as palpitation, hypertrophy etc., or muscular wasting. Hence particular attention should be paid against excessive exercise.

Habit—is an important factor for the preservation of health. 'Habit is second nature,' so runs the proverb. The influence of habit in the formation

of character of a person is known to all but the influence of habit on the physical and mental condition of all men, particularly of children can never be over estimated. It is productive of good and abortive of evil. Every individual should have regular daily habits of cleansing himself, as for example, the daily habits of sanitation of bowels by its regular evacuation, sanitation of skin by the habit, of regular cleanliness of the skin and sanitation of urinary system by the habit of regular evacuation of bladder. This is very important in keeping the body healthy and, mind refreshed and cheerful and equally important is the habit of moderate eating, at regular hours during true appetite. Unless one is cleaned regularly the waste matters in the system being decomposed are absorbed producing different kinds of diseases resulting in a most unhealthy life.

The Habit of Smoking.—Should be avoided by the youths as far as practicable. The hubblebubble is the best way of smoking tobacco. In this nicotine and other poisonous substances derived from tobacco are deposited in the hooka (hubblebubble), a poison thus avoided. Other sorts of smoking are more less injurious. Smoking hardens the tissues of the arteries and cancer of the lips is also possible from smoking. Chewing tobacco is also very harmful to health.

Sleep.—This is the only form of complete and periodical rest of both body and mind. Actions involve destructions and discharge of function implies consumption of structure. Waste must be repaired and replacement must be equal to the waste. The necessity for sleep arises from the demands of certain nerve centres which undergo waste during the hours of activity. With the coming of sleep, muscles commence

from the extremities to be relaxed followed by closing of eye-lids resulting from the inactivity of the eye-muscles. Hearing is the last sense to be dulled. The heart, the lungs, the digestive and other organs continue to perform their respective works during sleep, which interfere with metabolism but stimulate the power of assimilation, and this favours the absorption of foul vapours. Sleep is really rest of brain but the spinal cord and sympathetic system never sleep. The amount of sleep varies with (1) age. Infants sleep the greater

(3) *Occupation.*—Persons engaged in brain work require more rest and sleep than those doing physical labour.

To sleep immediately after meal is a bad practice. "After supper walk a mile" holds good at all times. Sleeping-bed should be elastic and firm and this should be sunned daily if possible. During sleep, head should rest on a pillow and the body barring the head and face should be covered with a sheet. Sleeping room should be well ventilated and covering of the head and face is a bad habit as this impedes the fresh pure air to breathe. The best time for sleep is night.

"Early to bed and early to rise
makes a man healthy, wealthy and wise"

is true everywhere and at all times after a sound sleep both mind and body are refreshed. Too much sleep makes a man lazy.

Sickness.—Any sickness occurring, should be immediately freed by treatment. Regarding diet of the sick, generally over cooked things are given to the patient but it is to be remembered that whether liquid or solid food given, a hygienic, nutritional and very easily assimilable things are also necessary for them. A good ventilated house should be selected for segregation of the sick and the house as well as all the infected things therein should be disinfected by fire, boiling water, steam, sunlight, by chemicals or by other disinfectants and other measures according to necessity.

Self-restraint.—The habit of personal moderation and self-restraint from any indulgence is an essential factor in preserving 'Health'.

Test of healthiness.—Every month or fortnightly, the individual should be



Thenicotine poison from the smokers' mouth leaves a stain on the cloth.

part of the day. *Adult* requires six hours' sleep. Those above sixty need more sleep than they did in the middle life.

(2) Weak, debilitated and sick persons require more sleep than healthy ones.

weighed and weight of the previous weeks or months compared. If the weight appears to be greater than before and the activity of the body

An Unhappy Hero.

The practitioner of Natural Cure who advises a large grim member of the delinquent set to fast for a few days.



Fasting is nature's remedy for obesity.

improved, it can distinctly be presumed without calling a physician that the general health is better than before.

In conclusion it may be said that the rates of infant mortality and maternal mortality in India are very high in comparison with the other countries of Europe. In England the rate of infant mortality now is sixty-five whereas in India the rate ranges from 160 to 200. The rate of maternal mortality per thousand live births now is 4 in England and 20 to 30 in India. One of the

causes of such high mortalities in India is due to, leading lives in most unhygienic conditions which are again due to many factors—e.g. ignorance, habits and customs of the people and wanting in proper education. Education is the first step to attain the habits of leading a practical daily hygienic life.

From the statistics it is seen that in the people working between the ages of 25 and 65 in the different industries and occupations, the comparative mortality figures in the serial numbers shown below from above downwards are gradually on increase—the lowest amongst the agriculturists and the highest amongst the tin miners.

Workers.—(1) Agriculturists (lowest mortality). (2) Carpenters. (3) Bakers. (4) Carpet manufacturers. (5) Brick layer masons. (6) Rope cord makers. (7) Cycle, Motor manufacturers. (8) Tin plate manufacturers. (9) India rubber workers. (10) Brush workers. (11) Wood turners. (12) Farriers. (13) Glass manufacturers. (14) Chimney sweeps. (15) Lead miners. (16) File makers. (17) Cutlers, Scissor makers. (18) Tin miners (highest mortality). Comparative mortalities of the above workers are generally due to phthisis and other respiratory diseases.

Comparative mortalities from respiratory diseases are also shown below as stated by Knight in his Diagrammes page 17 diagram No. 8

Coal miners	... 328	Quarry man	... 582.
Bakers	... 337	Printers.	... 627.
Plumbers.	... 431	Cutlers,	... 760.
Bricklayer.	... 453	File cutler.	... 783.
Cotton worker	... 543	Potters.	... 1,118.

average for England 402.

The causes of respiratory diseases principally depend on bad hygienic condition i.e. bad lighting and bad ventilation of workrooms with perhaps overcrowding and obstruction to sun-

rays; long hours to work (over work), exposures to extremes of temperatures and other extrinsic conditions as well as to bad vapour and microscopical and other gaseous impurities, and to

dust, whether mineral or organic. Moreover, certain trades encourage the habits of intemperance. Hence it should be our incumbent duties to strictly follow the hygienic rules in relation to matters of occupation and industries specially on nutritional food, and water of pure and wholesome nature, free from any infection through dust and fly, good light and ventilation clothing and cleanliness, exercise, recreation, purity of thought and good spirit. If necessary for the improvement of the healthful society, the hygienic rules should be enforced into laws. If this can be done, the Public Health of the

country will be automatically improved, as the Public Health is the summation of individual health and on this individual health depends the health of the community.

My thanks are due to Dr. H. Lyngdoh, M. B. E., Civil Surgeon Nowgong, and to Dr. R. Deb, M.B., for their valuable advice on the subject.

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HABITS

BY

G. NARASIMHASWAMI AIYANGAR, A. R., San., I., (Lon.)

Sanitary Inspector, Municipality, Vizianagram.

'Habit is second nature' is an axiom which is known to one and all. Nature's laws are automatically performed and are not to be violated, whereas the cultivation of habit mostly depends on the firmness of will power and perseverance of the individual. Habit either good or bad can be stated to be a contagious disease in that it is cultivated by contact with persons of either stamp. Further, nature's laws can with some degree of accuracy be compared to that of the actions of involuntary muscle and that of a habit to the voluntary muscle.

Instinct and habit are quite different since the former is inherited while the latter is acquired. An infant when the breast is presented takes in milk without any trouble. A dog when one of its legs is broken walks on its three legs

alone. These are instincts. Whereas drinking of intoxicating liquor is a habit cultivated in after life by individuals.

Indians have a particular knack of cultivating loathsome habits and such of the educated even knowing the consequences of such habits would be quite unmindful of them, and allow even their children to continue them, with a cynical smile.

How long would such things be allowed to continue and is there is no remedy for the same are vexatious questions. It is not a question of toleration since there is no limit to it. When one knows that a certain bad habit cultivated by him would be detrimental to himself and his neighbour, one should try to check oneself instead of allowing it to become a second nature.

Certain habits cultivated by us are mostly injurious to us and our neighbours, about which we never care.

Spitting indiscriminately is one of the worst habits which one should discontinue. This dangerous practice is penalised in several western countries but in India it goes on uncontrolled. Spittons and sign-boards put up in several prominent places not to spit anywhere, does in no way abate this nuisance. Third class passengers in trains are the worst sinners in this direction, and the entreaties of a fellow passenger would not even be heeded.

Tuberculosis would be the main result of such a course apart from several other diseases.

Allowing of children to defaecate on road margins and gutters is one of the worst practices cultivated by us. Even elders during night time defaecate on road margins without the slightest hesitation and some have lost the sensitiveness of getting up even when a passer by approaches, but ease with all the more comfort. Even in Railway compartments the lavatories are not properly used. Persons do not sit over the aperture and squat, but spoil the whole latrine causing a lot of nuisance. Sign board in the latrines that persons have to squat sitting over the aperture is a dire necessity.

Public latrines constructed in towns are also hopelessly misused and it would be a veritable hell for any one to enter them, but since there would be no other alternative when necessity arises, people are compelled to enter them.

These are very bad habits which have to be checked. Apart from the nastiness of the habit, people become victims to Hook-worm which is due to the soil pollution by indiscriminate defaecation.

Personal cleanliness is not properly attended to although, its neglect affects the very vitals of the individual. By personal cleanliness, it is not meant personal adornment and cleanliness should not be confused with luxury. Loose and light garments should be worn preferring white clothes to coloured ones, since dirt cannot be detected in coloured clothes. Serge and tweed coats are constantly worn without putting them to wash lest they should be spoiled. This is a very common, but a bad practice which should be discouraged. It is no excuse when one says that he has only a few clothes. Even the few can be used with best advantage, by washing one set of clothes and wearing the washed and vice-versa.

Mahatma Gandhi while in South Africa washed his own clothes, ironed his collars since he keenly felt the irregularity of the washerman, whose bills too were no less cheap. He says he found it a pleasure to wash his clothes as time went on, and it is worth while to quote what he writes in this connection. "I shall never forget the first collar that I washed myself. I had used more starch than necessary, the iron had not been made hot enough and for fear of burning the collar, I had not pressed it sufficiently. The result was that though the collar was fairly stiff the superfluous starch continually dropped off it. I went to court with the collar on, thus inviting the ridicule of brother barristers, but even in those days, I could be impervious to ridicule." We should always wear clean clothes which would prevent many diseases even if it matters our own washing.

Baths should be taken regularly twice a day scrubbing the body well. It would serve no purpose if bath is taken for the mere sake of it, by pouring bucketfuls

of water in succession without cleaning the body. Oil baths would no doubt be quite refreshing and healthful. The application of oil to the body even after bath is no doubt a good practice.

The waste matter from the body comes out in several ways one being through perspiration. The pores of the body are blocked by not taking baths. Then the waste matter remains inside and gives rise to several ailments. Ring-

worm a very loathsome skin disease is due to the negligence of washing and cleaning the body properly.

Hence, we should always cultivate a habit which would be beneficial to us but not injurious. Good habits if found in others, should be emulated, does not matter if he is a poor man or a rich man. Children must be taught to cultivate regular and good habits.

PIONEERS OF MEDICINE

LOUIS PASTEUR (1822-1895)

By the Honorary Sanitary Adviser, Public Health, Trivandrum.

Louis Pasteur the great French chemist and bacteriologist of the 19th century has by his brilliant scientific researches and discoveries won an immortal name in the realm of science. Born in 1822 to a humble station in life as the son of a tanner, Pasteur struggled out of his obscurity into universal fame by dint of his untiring scientific pursuits. Endowed with a devout nature, simple manners, kindly disposition and a burning passion for work, he easily gained the love and admiration of all.

His natural predilection for chemistry and science eminently fitted him to fulfil his great mission in life. He first investigated the processes of fermentation and discovered that it was caused by micro-organisms obtaining access to the fermenting liquid from the air. This gave him the clue for the formulation of the germ theory of diseases. The opportunities he soon got to investigate the causes of silkworm disease, anthrax and chicken-cholera enabled him to strongly establish his theory. His crowning achievement was the discovery of

the curative and preventive treatment of hydrophobia in man and of rabies in dogs. The world wide Pasteur Institutes constitute a standing monument to this great boon conferred upon humanity.

The lasting contributions made by Pasteur for the development of medical science could hardly be overestimated. Prior to his dazzling discoveries the exact causes of diseases remained shrouded in mystery. He was the great pioneer who dispelled the clouds of darkness and ignorance and revealed man's unseen enemies, the murderous microbes. It was he who clearly discovered the principle of producing artificial immunity against communicable diseases by means of vaccines. His work marked the beginning of scientific preventive measures in the conquest of diseases.

Pasteur's high ideal was "to make parasitic diseases disappear from the face of the Earth." Thanks to Pasteur and his followers Koch in Germany, Lister in England and many more, we clearly know to-day what the causative agents of the various communicable

diseases are, and how they are to be combated. A mighty genius, a great benefactor to humanity, and "the most perfect man who ever entered the

Kingdom of Science," Louis Pasteur passed away peacefully in 1895 at the ripe and mellow age of 73, full of years and full of honours.

HOW TO OVERCOME INSOMNIA.

SLEEP IS EASILY INDUCED BY REGULAR HABITS.

Most people sleep without effort and only require the necessary time; but there are a large number, who, for one reason or another, find themselves too wakeful and restless at night to get sufficient sleep. It is the purpose of this article to help those who suffer from insomnia or sleeplessness as a disease or serious functional disorder, as those should be treated by the family doctor, writes Mr. A. B. Olsen M.D., D.P.H. in "Hearld of Health."

Sound sleep gives the most complete and perfect rest that the body gets. Such sleep is more refreshing and invigorating than any medicinal tonic. The various organs of the body, the muscles, and especially the nervous system and brain need the rest and refreshment that sleep brings, for it is a fact that one can do without food longer than one can do without sleep. So vitally important is sleep to the maintenance of health that it has well been called the "divine healer". There is no sleeping draught that quiets excited nerves and calms the distraught mind so successfully as sleep. It is the safest as well as the gentlest of the anodynes, pain-killers, and it is the best soothing medicine for the nerves. It may, in fact, be regarded as Nature's hypnotic.

In dealing with sleeplessness it is well to ascertain the cause, if possible, and then remove it. But the causes are not

always obvious, and it is often a difficult matter to find them. Failing this, the next step is to seek the best means of overcoming the sleeplessness, and getting back into a more natural and healthful state of existence.

HABIT FORMATION.

The body and all the organs and functions of the body are prone to form habits and follow them. Sleep is to some extent a habit with many people, and if lost, it can often be restored by a little patient training. To accomplish this it is necessary to have a fixed time for going to bed, not later than ten, if possible, and then to retire promptly at that hour each night. Punctuality and perseverance are necessary to success.

THE SLEEPING CHAMBER.

The bedroom should be well ventilated, and situated on the quiet side of the house. Fresh air is essential to sound sleep, and a screened sleeping veranda is a boon to most people. Cold air is a fine tonic, and to breathe it throughout the night means increasing vigour and vim for the following day. On the other hand, ample light and woollen blankets should be provided, for comfortable warmth is necessary for sleep. But too much bedding is destructive to sound sleep, and the bed should not be overloaded with blankets or other covers.

Darkness as well as quietness is an aid to sleep. Very few people sleep well in a lighted room. Rest and sleep come more readily in a quiet dark room.

DIGESTION AND ELIMINATION.

Good digestion and freedom from disturbances to both stomach and bowels conduce to sleep. Experience teaches us that a rather light early evening meal favours sound sleep. By taking the last meal early, say, at six o'clock, time is given for gastric digestion, and there is less likelihood of unpleasant dreams and nightmare.

Constipation not only tends to wakefulness but is otherwise a menace to health. It is a good practice to take a cleansing saline (one teaspoonful of salt to each pint of water) enema (105. F.) before retiring, if there has not been a recent evacuation of the bowels. A neglected colon (large bowels) becomes our garbage bin in the course of few hours, and the poisons resulting from bacterial activity are speedily absorbed into the blood stream and toxication or self-poisoning follows. This poisoning may be sufficient to produce restlessness and vague aches. The bowels should be emptied as regularly and as frequently as the meals are taken. Much ignorance prevails with regard to the disorder that may arise from constipation.

EXERCISE AND FATIGUE.

Muscular exercise, short of excessive fatigue, encourages sleep. The daily use of the limbs as in walking, rowing or swimming by which the large skeletal muscles are brought into play, is helpful in promoting sleep. People leading an indoor, sedentary life often suffer from insomnia. If they would take up golf, tennis, walking or some

other form of muscular activity, their condition would soon be ameliorated. A daily sweat from muscular labour of one kind or another is a fine tonic and helps very materially in promoting good sleep. It is to be expected that both muscular and mental labour will bring repose with its recuperating effects. Inactivity and idleness, on other hand, encourage sleeplessness.

NOISES.

Of the two classes of noises, outdoor and indoor, the latter are far more annoying, and should be under better control. It is well nigh impossible to escape the jarring sounds of traffic of all kinds and one must simply learn to ignore them. Treat them as you unconsciously treat the ticking of the clock, that is, don't listen to them. It is wonderful how readily one can learn to shut out annoying sounds of all kinds. At first it requires considerable determination and will-power, but perseverance will win.

With indoor noises that are under control is different matter, and everything possible should be done to secure quietness at night. As a rule the indoor noises are more irritating than the outside traffic, whatever it may be.

PEACE OF MIND.

The state of the mind has a great deal to do with sleep. The harassing activity of the mind associated with worry and anxiety is sure to drive away sleep, no matter how tired the patient or how favourable the environment. A mind distracted with fears and worries is difficult to compose and put to sleep. It is futile to expect sleep as long as the mind is agitated by forebodings or is in a state of excitement, whatever the cause may be.

The details and troubles of business or professional work should be left at the office and not brought home. A peaceful evening given to music, reading or quiet games at home with wife and children, favour sleep, if other conditions are satisfactory. To be able to go to bed at night, and at peace with God and man means sound, restful sleep and witness for the duties of the following day.

SLEEP-INDUCING PROCEDURES.

Before opening the windows wide and turning out the light, provide a hot water bottle or sand-bag if the feet are cold. If in a state of restlessness, take a warm or neutral oil bath, 97 deg. to 98 deg. F. neither hot nor chilling for ten to thirty minutes, then dry the skin gently and slip into bed. This is the ideal bath for sleeplessness. Two or three fomentations to the spine or a brief hot feet bath will put some insomnia patients to sleep. Others respond better to soothing massage of the head or back, while a moist abdominal bandage suits still others. Stomach-ache or abdominal discomfort can be speedily relieved by a hot soap enema or hot fomentations to the abdomen or by drinking hot water, or all three procedures combined.

DROPPING OFF.

Always go to bed expecting to sleep but don't start worrying about it, if you fail to drop off at once. Find a comfortable position and then endeavour to rest quietly with a blank mind until sleep comes. It is a mistake to make a great effort of one kind or another, like counting sleep, for the very effort itself is often sufficient to maintain a wakeful state.

Saying prayers or repeating a few familiar Bible verses may prove helpful, if the effort is not too great. Try to adopt an attitude of restfulness and say to yourself.—“Never mind about sleep: I can at least relax and rest quietly.” This attitude of itself will often woo sound slumber. But worrying because you do not fall asleep soon is only a hindrance and simply means still further delay in getting to sleep. The late Dr. Thomas Clouston of Edinburgh recommended “going over pleasant part of their past lives” to his patients. Pleasant thoughts have a soothing calming effect that ought to promote sleep.

WAKEFULNESS.

If the condition is one of extreme wakefulness and the neutral bath and other soothing measures have been tried in vain, it may be well to read an instructive rather than an entertaining book, one that is somewhat abstruse or complex. As soon as the sleepy feeling comes, get into bed as quietly as possible, so as not to lose the spell. Sometimes deep breathing will overcome the wakefulness and induce slumber. This is particularly true if cold fresh air is available. A quiet walk for half an hour or more in the evening, just sufficient to bring physical tiredness, is a valuable procedure for sedentary workers who have no time for exercise during the day.

In some cases it might be well to sip a glass of hot water, or even hot malted milk (made plain, with one tablespoonful to six or eight ounces of water, or milk and water (equal parts). If preferred, lemonade, orangeade or some other fruit drink may be taken. Such hot drinks are comforting and sometimes make a good nightcup. More substantial nourishment just before retiring is not desirable as a rule.

SLEEPING MEDICINE.

The use of narcotic drugs for insomnia should be confined strictly to the prescription of the family physician, who is acquainted with the patient and knows the conditions that have to be dealt with. Such drugs should be avoided as far as possible and only resorted to temporarily for very special reasons. All must recognize that there are times and conditions when the administration of a sleeping draught is in order, but these times are rare, and everything possible should be done to avoid all forms of so-called "dope."

In many cases all that is needed is a little patience, and the ability to rest quietly even if the perfect repose of sleep does not come. Quiet rest with complete relaxation is usually more refreshing than the morbid sleep produced by medicine. Going without sleep for a night or even a succession of a few nights, is no excuse for the use of narcotic drugs.

Hypnotics are more or less dangerous, and seldom fail to cause other damage as well as unconsciousness. The fact is that they do not bring normal sleep, merely a state of unconsciousness; a considerable difference. But they do

drive away natural sleep. A drug that is powerful enough to paralyse consciousness is surely capable of doing harm, and hypnotics generally. They are liable to cause headache or backache, upset digestion, disturb the liver, irritate and poison the kidneys, and encourage constipation. They stun the senses and have a benumbing and deadening effect upon the nerves and brain.

In conclusion, we may say that while hypnotics do produce hypnosis, a pathological quietness and unconsciousness, their tendency is to destroy natural sleep and prolong insomnia. Therefore it is wise to destroy natural sleep before resorting to any hypnotics, no matter what may be claimed for them and then only on the advice of the family doctor should they be employed.

The method of treatment was first suggested in 1913 by a Frenchman Dr. Legrain, and has been increasingly used in this country for about 5 years. Recent practice suggests that the simultaneous injection of salvarsan aids recovery.

The next reason why malaria cures paralysis in so many cases has yet to be established.—*Burma Medical Times.*

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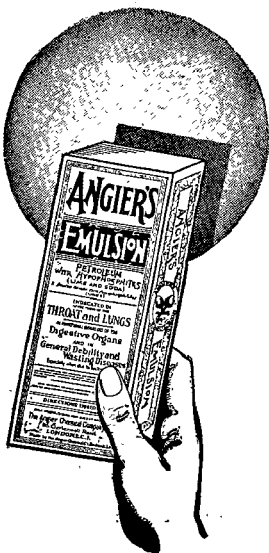
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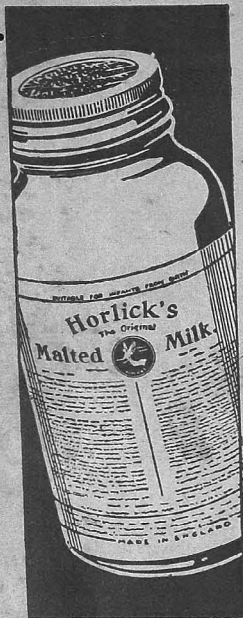
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