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Editorial

OLD AGE

..... "The sixth age shifts
 Into the lean and slipper'd pantaloon
 With spectacles on nose and pouch on side
 His youthful hose, well sav'd, a world too wide
 For his shrunk shank; and his big manly voice
 Turning again toward childish treble, pipes
 And whistles in his sound. Last scene of all
 That ends this strange eventful history,
 Is second childishness and mere oblivion,
 Sans teeth, sans eyes, sans taste, sans everything". —*Shakespeare.*

OLD age comprises the period from the sixtieth year to the end of life of a human being. The question naturally arises: What is the full term of life of a human being? The Hindu Sastras fix the maximum age-limit of a person at 100. Hindu astrologers go up to 120. The Biblical age is three-score and ten. Very few people, however, live up to this age in the present-day world of stress and strain, work and worry and distress and disease. Whatever might have been the past history of India, as

regards longevity, it is now as clear as crystal, that the Indians are a short-lived nation, when compared with the other nations of the civilized world. The average span of life in India is, for males 23 years and for females 24 years. This is less than half the life expectancy of some of the countries of the West. The causes of this low vitality are extreme poverty, excessive infant mortality, epidemics, unhygienic and insanitary conditions. So, those who have reached the age of 60, must have

been leading a simple life with regular habits. Now, having reached the age of senility, what should old persons do to complete the full term of life—Biblical or the Hindu Shastric? They must at once retire from all activities and take such steps as would enable them to conserve their energies and preserve their bodies from further wear and tear. These steps consist in (1) Rest (2) Recreation (3) Diet (4) Hygienic living (5) Mental poise and (6) Prayer and devotion to God. Let us now take each of these items seriatum and discuss it:—



A chieftain of the Soliga tribe. This man owes his sturdy constitution to the out-door life he leads in the jungles.

1. **Rest.**—Rest is absolutely necessary to the old, worn-out and tired limbs. But rest does not mean always lying in bed and remaining inactive. Vigorous work must be given up and work of a light nature may be undertaken, if necessary. Most of our statesmen and politicians are old men between the ages of 60—70 but they merely direct the ship of State and not drive it. These people, very few in number, belong to a very high order of physical and mental energy and cannot therefore be taken as illustrations. The average old man must take sufficient rest, if he wants to live longer.

2. **Recreation.**—Rest without recreation is idleness. Rest must be coupled with some sort of recreation. Old men must therefore take up some hobby or other, such as farming, gardening, spinning etc., which would not only go to strengthen their nerves and muscles but also enliven their minds. “In this busy practical age, the mental and physical energies are too much concentrated upon money-making. Business men wear themselves out in their counting rooms and die just as they are about to reap the golden fruit of their labours, having denied themselves all physical and social enjoyment, with the delusive promise to themselves and their

friends that a certain end is attained, they will give rest to their over-worked faculties. This end reached, another one is substituted and still another, till the worn-out cheated brain seeks in the repose of death that rest which its possessor denies it in the whirl of busy life". These are sane words and must serve as a warning to those who, after retirement from official or business life, at the age of 60, take up other occupations, equally, if not more, taxing and worrying, to satisfy their unquenched ambitions or unfilled purses. Cinemas, theatres and such other kinds of entertainments as would tell upon their already weakened eyes, nerves and ears are taboo. The best form of exercise for an old man is walking on plain ground until the body perspires and we can think of no other.

3. Diet—Always, it is the diet that is at the bottom of the mischief. It makes young men prematurely old and old men look ever young. Old persons must take care that they adjust their foods according to the changed conditions of their lives. They must take only such foods as are simple, easily digestible and assimilable. It is said that he who takes three meals a day is a 'சோகி', a diseased

person, he who takes two meals a day a 'போகி', an enjoyer of life and he who takes one meal a day is a 'யோகி' a saint, who is assured a long lease of life. So, old men must be content with one meal in the day, and a liquid diet such as milk or buttermilk during nights. The day-time meal must consist mostly of cereals, fruits, vegetables and milk, those low in protein and fat and liberal in vitamins and minerals. Gas-forming foods such as meat,



120 and still going strong. This is Gouramma, a villager of Vajamangala in the Mysore State. She claims to be over 120 years old. She can still walk about her house with perfect ease.

condiments, tea and coffee should be strictly let alone. Alcohol and tobacco are strictly taboo.

4. Hygienic Living.— This is another essential requisite for an old man who desires to live a happy and healthy life. An old man is the victim of many diseases due to tissue changes and decay. One of the commonest causes of his ill-health is his artery. "Old age is not a question of years; it is not determined by the greyness of the hair alone, nor will it do to measure it by the feel of the temporal artery. Calzali's statement that 'a man is as old as his arteries' is too short a phrase to contain the whole truth of so large a thesis, yet it is in the walls of the blood vessels, that the most important though the less striking changes take place." Besides the diseases of the heart, such as high blood pressure, low blood pressure and so on, his eyes are attacked with cataract and his ears become short of hearing. His teeth fall and he naturally becomes at a ripe old age, 'sans teeth, sans eyes, sans taste, sans everything'. A little prudence, however, on his part, will mitigate his troubles, if not altogether avert them. He must try to live a scrupulously hygienic life, consult specialists for heart, eye and ear diseases and not allow himself to be treated by quacks and charlatans, thereby courting more troubles.

5. Mental Poise.—Worry is the worst enemy of man, more so of an old man. An old man must keep a balanced mind and try to free himself

from all anxieties. Unfortunately, at the present day, an old man is the most worried man in the whole world. Whether rich or poor, his mental and physical condition is in proportion to the care taken by his children on whom he has to depend for maintenance and nursing. It is said that among certain barbarous tribes in Africa, the head of the family as he becomes old, is shot down by his son, so that he may not be a burden and a nuisance to the family. Such ought not to be the attitude of youngsters towards their old parents and old parents should also submit themselves to the exigencies of the family and not stand on formalities and ceremonies, such as occur in some Hindu families. Old men must keep their heads cool and divest themselves of all family burden and responsibilities. This is a sure path to their reaching the full age limit.

Prayer and Devotion to God.— Lastly, comes prayer, in atonement of all the past misdeeds if any, and in the attainment of a peaceful end. Prayer and devotion will give old men mental poise and free them from all worries, they will force them to lead a pure and hygienic life, will not divert their attention to filling up their maws always and thereby court diseases and disasters, will help them in the pursuit of gardening and such hobbies as would yield fruits, flowers &c. and generally give them that repose and rest of body, mind and soul in this world and take them ultimately to that haven of eternal bliss or Heaven, as it is called.

A HEALTHY VILLAGE HOME

Introduction. By DR. K. PRASADA, M.B.B.S., D.P.H., portion of our
—Housing has life. Our asso-
a n intimate ciation a n d
relation to a t t a c h m e n t
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health. Good housing conditions ensure the desired supply of fresh air and light, encourage personal cleanliness and tend to improve the general sanitation of the environment. A properly designed house in suitable surroundings adds to the comfort of the inmates besides safeguarding their health.

Housing affects health, morals and progress both directly and indirectly. Poor lighting and bad ventilation undermine resistance to disease and make it difficult to maintain tone, vitality and efficiency. Cases of tuberculosis are now met with in village homes as well. Crowded and insanitary dwellings facilitate spread of communicable infections. Dark rooms are not easily cleaned and harbour mosquitoes, rats, snakes and other pests. Dampness in the habitation is credited with the production of rheumatism, catarrh, neuralgia, bronchial affections and certain bowel complaints. Malaria too has an intimate relationship with the site and construction of a residence. Lastly even an edifice, though erected at considerable expense and labour, may yet prove to be a source of constant worry because of its surroundings.

It will thus be clear that a number of factors deserve to be considered when constructing a house. No pains, labour or expense need be grudged in connection with the building, wherein we shall be spending a considerable

with it will only increase with age. In it the children will grow in health and vigour, and for it they will, in time, develop love and admiration.

Site.—1. *Locality* :—A healthy, fairly open and sunny situation should be selected. The immediate vicinity of highways, railway lines and busy bazars should be avoided to minimize road risks, noise and dust nuisance.

2. *Surroundings* :—The site should be at a suitable distance from ponds, marshes, low-lying areas, grave-yards and cremation grounds. The neighbourhood of people with a low standard of cleanliness, as also of those engaged in offensive trades and callings (e.g., pig keeping and tanning), should not be favoured. Localities where the refuse of the village is collected, where inhabitants usually commit nuisances, or which are, otherwise, undesirable, should be shunned.

3. *Soil* :—The soil should be free from surface contamination and not retentive of moisture. A pure, dry and porous soil is suitable. Sand and gravel constitute the best soils for building purposes, while clay and made-soils are not so healthy. The gravels and sands, however, absorb heat readily and, unless covered with herbage, will be hot in summer. Moreover, they are easily polluted by leaky drains and cesspools. Clayey soils, on the other hand, are cool, as they

are little absorbent of heat. If the site be an elevated one, a clayey soil will ensure good surface drainage.

4. *Sub-soil Water* :—The sub-soil water, when it rises, forces the ground air, which is generally moist and impure, into the rooms. The sub-soil water should, therefore, be at least 10 feet below the surface and at a fairly constant level.

Dryness and Drainage.—Moisture favours decomposition of putrefiable matter. A dry soil is, consequently, cleaner and the ground air is purer as compared to a damp one. The site should, therefore, be such as is not likely to be submerged during floods but is at an elevated position and has a gentle slope favouring natural drainage both on the surface and in the sub-soil.

Trees and vegetation abstract large quantities of water from the soil and this is evaporated from their green leaves. Eucalyptus globulus, which absorbs and evaporates eleven times the rainfall over the area it covers, renders malarious districts healthier by permanently lowering the level of sub-soil water and thereby rendering the soil drier. Sun-flower is said to produce a similar effect.

Trees and Vegetation.—The cultivation of crops, such as rice, which require to be continually flooded with water is not good in close proximity to a residential building. Trees, in the immediate vicinity of a house, obstruct light and air, tend to check evaporation from the ground and favour dampness. In malarious districts, rank vegetation around a house and even flower beds or vegetable gardens near bedroom windows are undesirable.

The cultivation of high crops near the walls facilitates committing of nuisance or theft. For these reasons it is not to be encouraged.

Construction.—A house should be built on a plinth over a foot high. The surrounding area should be well sloped to take away the rain water.

The walls should be at least 10 feet high. Rooms 20 feet in height are cooler in summer. The verandahs should be lower than the rooms to admit of the latter being properly lighted and ventilated. A thin-walled house is hot in summer and cold in winter. In villages, where the area covered is not a serious consideration, mud walls are usually made very thick for reasons of safety and comfort.

Thatched roofs, though cool, harbour rats, snakes and insects and are exposed to the risk of fire. Flat mud roofs or jack-arch roofs provide a place to sleep in summer and bask in the sun in winter. To keep cool, a jack-arch roof can be covered with a thick layer of clay. Pent up roofs of country made tiles are said to be cooler and have some other points in their favour.

The platforms for water pots, for scrubbing the utensils on and for bathing, the drains and the latrine seats should be cemented or plastered.

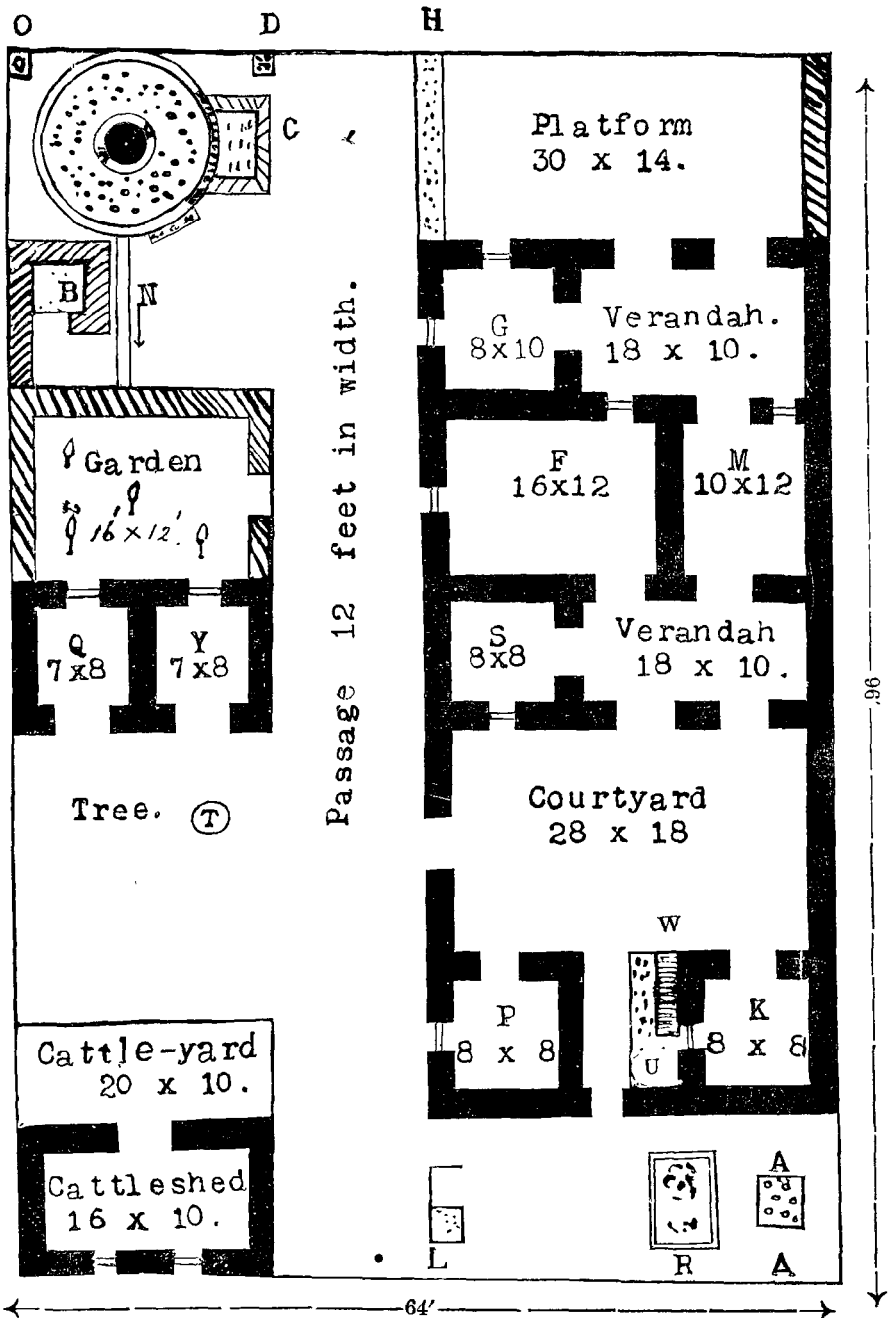
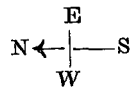
If funds permit, the foundations should be built on concrete, a damp-proof course should be given and the floors and the yard should be paved with an impervious material.

Design.—1. *Type* :—The type of building will be governed by the geographical position of the village, the climatic conditions, the prevalent social customs, and the habits, the

PLAN OF A HOUSE FOR CULTIVATORS

Single - storied.

Scale 16 feet = 1 inch.



mode of living and the financial status of the individual concerned.

The provision of platforms and verandahs is essential, since, for the most part of the day in the tropics, it is uncomfortable to stay within rooms. Better class families will generally like to have an open court-yard and one or more rooms on the first floor. The detached one-family dwelling with space all round is the ideal. In the accompanying design are shown :—

An outer platform, a verandah and a room for the use of men ; a separate living room (F), an inner verandah and a commodious court-yard for females; a strong room (S) for storage of valuables, near the centre of the plot and adjoining the room for women; a well lighted and airy, medium sized room (G) situated outside, to serve as a sitting room, also for guests, visitors, study and isolation of sick inmates: a provision room (P) and a kitchen (K) close to each other, but away from the living rooms; a cattle-shed, a room for fodder (Q) and a store (Y) for grain, separated from the living rooms by a passage;

A platform (W), 6' X 2' X 2', for water receptacles, another (U), 4' X 4' X $\frac{1}{2}$ ', for scrubbing utensils on, both in a cool place near the kitchen, but not actually within the main court-yard; an absorption pit (A), 4' X 4' X 6', a refuse pit (R) 8' X 6' X 3' and a latrine (L) away from the main building, though close to the back-door, latrine being farthest from the kitchen; a bathing place (B), 4' X 4' X $\frac{1}{2}$ ' near the well with a drain (N) to carry waste water to the adjoining garden;

A raised platform (H), 14' X 2' X $1\frac{1}{2}$ ', to sit or rest upon; a sun-dial (D) in an exposed situation; a trough (C) for watering cattle; a stand (O) for 'tulsi' or other plant;

A shady and useful 'neem' tree in front of the cattle-shed and at some distance from the living room; sufficient space for fuel, cart, implements and odds and ends of an agriculturist; through ventilation, but no doors and windows opening over the side plots where other houses may be built.

It will be noted that there is no door to the south, that heads or the tails of cattle will not point in that direction and that the well is located at the north-east corner.

2. *Aspect*:—For frequent renewals of the air in the rooms, the doors and windows should face the direction of the prevailing winds. At places where the winds generally blow from east to west, or vice versa, the main rooms should face east or west. This will in addition secure an adequate amount of light within the rooms.

The rooms situated in the northern or eastern direction are cooler, while those, in the southern or western direction, are drier.

3. *Area and Size*:—Houses without court-yards, wells or kitchen gardens will require less space. In the plans approved by the Board of Public Health, U. P., the plots of land for village houses with court-yards inside and a platform outside range from 36 feet X 40 feet to 62 feet X 74 feet. In most of the villages however, there is not such dearth of land for building new houses.

The plots should be rectangular and so marked that no tortuous lanes result. It will be an advantage to leave a lane between every two houses.

4. *Rooms*.—The floor area of living rooms ought not to be smaller than 10 feet by 8 feet. At least two living rooms should be provided in every house, besides a kitchen, measuring at least 7 feet X 5 feet, a cattle-byre, 18 feet X 10 feet and a latrine 4 feet X 4½ feet.

It will be necessary, in most cases, to provide a fodder room, 10 feet X 6 feet and a strong room 6 feet X 6 feet. It will be preferable to have, in addition, a store, 8 feet X 6 feet. Those who can afford may, according to their requirements, have also a bath room, a sitting room, a room for guests and one for servants.

The store, the cattle-byre and the fodder room should be away from the living rooms. The latrine should be away from the main building and at some distance from the kitchen.

For the storage of provisions for domestic use, a small room should be built close to the kitchen. The kitchen itself must be away from the living rooms and should have outlets for smoke as near the ceiling as possible. Those, whose means permit, can construct a chimney flue, which should be circular, straight and higher than the top. The doors and windows may be rendered fly-proof with gauze or by means of 'chicks'.

Cattle-byres, which render the air foul and tend to increase the mosquito nuisance, are to be built away from the living rooms, leaving a passage 10 feet wide. They should be well-lighted and airy. The rooms for the storage of fodder, grain and other

produce should also be at some distance from the living rooms.

Light and Ventilation.—For health, cleanliness, safety and comfort, it is essential that every room be properly lighted and ventilated. As the doors in a room are likely to be closed at night, it is necessary to have some windows too.

The window area provided for each room should be one-tenth of the floor area. In a room, 8 feet by 8 feet, one window 3 feet X 2 feet, will be needed. To serve as outlets for foul air, round holes, 10 inches in diameter, may be provided near the ceiling. Excessive window provision, on the other hand, makes a room very warm in summer and cold in winter, besides interfering with the safety and the privacy of the room and exposing it unnecessarily to sun, rain and winds.

For the sake of appearance the round holes may be fitted with spindle-shaped tubes of baked clay, about 2 feet long and 8-10 inches in diameter. To prevent the ingress of birds, squirrels, monkeys, etc., perforated covers of clay, cement 'Jellies' or pieces of iron sheets, into which artistic designs have been cut out, may be fixed in the openings. The larger windows should be provided with wooden or iron bars.

Every room should have at least one window, opening into the outer air direct and making it possible for sunshine to enter every living room at some period of the day. The doors and windows should be so arranged as to provide through ventilation.

Sanitary Requirements.—1. *Well*.—The drinking water supply should preferably be from a well with a masonry cylinder and an inner lining

of cement or lime plaster. In any case the super-structure should be pucca, consisting of a platform 4 feet or more in width, a parapet wall 2 feet high with the top sloping down and out, a pulley, a drain all round the platform and a lead-away drain to convey waste water to a distance of over 20 feet.

2. *Bathing place* :—The best site for the bath room is near the well. There should be a cemented platform, 9 inches high and 4 feet square, enclosed by walls 6 feet high to afford privacy. The waste water could be disposed of either in an absorption pit or utilized in the home garden.

3. *Home Garden* :—A small plot of land near the house can be usefully made to serve as the home garden. This will help to balance, without any expenditure, the villager's diet so sadly lacking in vitamins. A vegetable garden in a village is safest, if it is near or inside the household. Vegetables, *e. g.*, spinach, tomato, salad, vines, mint, coriander, onions and garlic, could be easily grown in it. Flowering shrubs, medicinal plants, seasonal flowers and fruit trees, such as papaya, plantain, oranges and lemons, can also find a place with advantage.

4. *Platform for utensils* :—In a part of the court yard should be built a masonry platform, 8 feet long, 4 feet wide and 6 inches high. Over a corner of it, a platform, 4 feet by 2 feet and 1½ feet high, should be raised for the water receptacles, the larger (lower) platform serving for scrubbing the utensils and for washing the hands and feet.

5. *Absorption pit* :—Waste water should find its way by a properly sloped, masonry drain into the cen-

tre of a soakage pit—a pit 4 feet by 4 feet and 6 feet deep, filled with over-burnt brick-bats.

6. *Manure pit* :—For the storage of refuse, sweepings, vegetable waste and dung, there should be a pit, 8 feet by 6 feet and 3 feet deep, behind the house. When full, the contents can be dug out and used as manure.

7. *Latrine and Urinal* :—Close to the back door should be situated the house latrine. Bored-hole latrines, which require little space, 6 feet, X 3 feet, last a family several years and also dispose off the night soil, are admirably suited as private latrines in villages. They are easy to maintain and it is unnecessary to have the services of a sweeper with this type of latrines. They serve as urinals as well.

Other Conveniences.—1. *Substitutes for meat safes* :—One usually comes across in some houses structures, which are made to protect prepared food in case it is stored for the night. They serve the same purpose as the meat safes. They may be cupboards or recesses in the walls fitted with wire-gauze or plain wooden doors. The eatables can also be kept in a container suspended from the ceiling or under a basket placed upside down over the ground.

2. *Places for clean utensils* :—It will improve matters, if the utensils, after being cleansed, are placed on a masonry platform built in the kitchen or failing that in a basket, instead of being laid on the bare ground. Of course it will be best to have a cupboard or a box for the purpose.

3. *Supports and shelving* :—Shelves, niches, mantel pieces, corner stones or ledges projecting out of a wall and properly fixed pegs prove very handy

and useful, though they collect dust and require frequent attention.

4. *Seating or resting arrangements* :—For sitting or resting mud, masonry, or wooden structures about $1\frac{1}{2}$ inches high and akin to platform or benches can be made at the door, in verandahs or under the trees.

5. *Playing facilities* :—Quiet, open spaces or yards will prove very useful for the younger children to play about.

Special Considerations.—The size and type of the building will be largely governed by the actual needs of the householder. Non-agriculturists, or those following some other occupation, will require a house different from that for a cultivator.

In highly malarious districts bedrooms should, if possible, be on the upper storey. Mosquito nets should form a necessary part of the equipment of the house. Sleeping rooms can also be protected by gauze fittings, with a mesh not larger than 12 strands to the inch, in the doors, windows and ventilators.

To protect grain from rats, it should be stored in clay receptacles standing on legs away from the walls. Baked clay pitchers are sometimes embedded in the walls with the mouth (provided with suitable lids) opening into the

interior of a room at a height of one yard or so. Rats will not be able to enter a godown constructed on a plinth, 3 feet high, without any steps, and with a ledge projecting 9 inches at right-angles from the top of the plinth.

Maintenance.—The best of houses will be rendered dirty and insanitary in no time if there is neglect on the part of the occupants. The floors should be dusted every morning, and the habit of throwing refuse or kitchen waste and spitting promiscuously should not be indulged in. A tin canister or basket should be placed at a corner of the court-yard to receive refuse during the day. The drains should be cleansed and cobwebs on walls and the ceilings removed frequently. The floors and the walls ought to be plastered with mud at regular intervals. White-washing, if it can be done, will be better, as it acts as a disinfectant and improves the lighting effect inside the rooms. A clean house presents a cheerful and inviting appearance and speaks well of the sense of cleanliness of the inmates.

It is only the occupants of a house like the above, who could have the maximum of happiness out of it and could feel that there's no place like Home.

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Constipation

By

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Definition.—A collection of impaction of excreta in the rectum—the residuum of various processes concerned in the nourishment of the body—occasioning irregularity or delay in the evacuation from the bowels.

It has been estimated that food taken per diem is about 35 ounces out of which, 30 ounces are assimilated and 5 ounces left as true excreta.

Normally, the food taken, after absorption, is excreted in about 24-36 hours but if the first meal after the last evacuation is not evacuated after 48 hours, constipation is said to be present. Again, frequent evacuations in small quantities in the day shows the presence of constipation.

A lot of mis-conception about this condition is present amongst the laity and their indiscriminate purgation is causing many troubles. These beliefs should be removed to improve the health of the general public.

Constipation is the precursor of many serious diseases.

Symptoms produced are lassitude, headache, loss of appetite, furred tongue, uneasy breathing, disturbed sleep, depression of mind, pressure or distension in the stomach and bowels, urging and repeated but frequent efforts to evacuate the contents of

the bowels. Persistent constipation may cause nausea and vomiting, and result in piles and varicose veins etc.

Causes.—Amongst the causes may be mentioned, constitutional peculiarities, sedentary habits, certain diseases e.g., affection of stomach and bowels and acute fevers, disturbances in the act of defaecation due to neglect, quality of diet, weakness of abdominal muscles as in obesity and

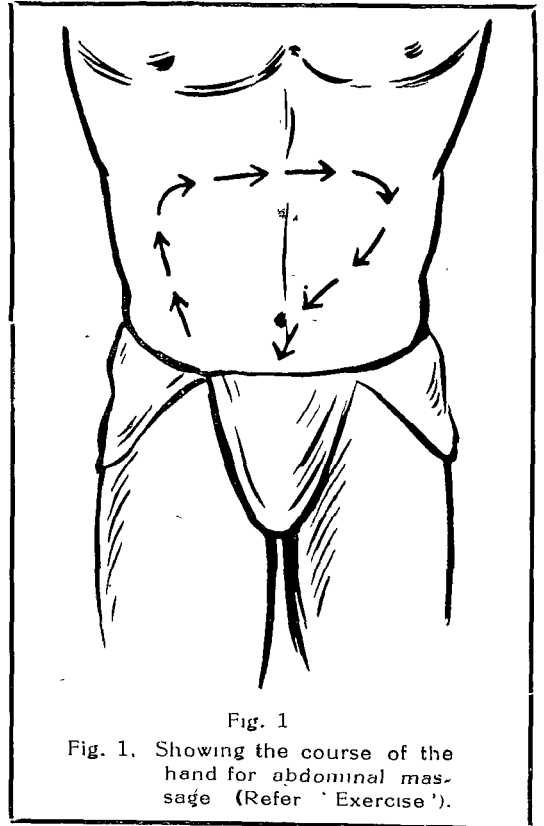


Fig. 1

Fig. 1. Showing the course of the hand for abdominal massage (Refer 'Exercise').

repeated pregnancies and atony of large bowels.

While it is admitted that constipation is not desirable, yet a tendency thereto is not so prejudicial as is commonly supposed. Indeed, persons thus disposed are generally long-lived, unless they injure themselves by indiscriminate purgation. A daily action of bowels is no doubt desirable

but by no means invariably so. An evacuation may take place daily or second or even third day without ill-effects in many persons. The most erroneous and dangerous idea on this subject is that extremely one—that aperient drugs contribute to health not only during sickness but also occasionally in health, in as much as impurities are thereby expelled from the body. The fallacy of this may be easily demonstrated. Let purgatives be taken for a week and however good may have been the health

with impunity. Not only does the frequent use of purgatives over-stimulate the liver and pancreas but also the numerous secretory glands of the intestinal canal forcing them to pour out their secretion in such excessive quantities as permanently to weaken their function and produce a state of general debility.

Treatment.—At all costs, avoid purgatives. Always follow Nature and its methods.

(1) *Habit* :—(a) Go to evacuate the

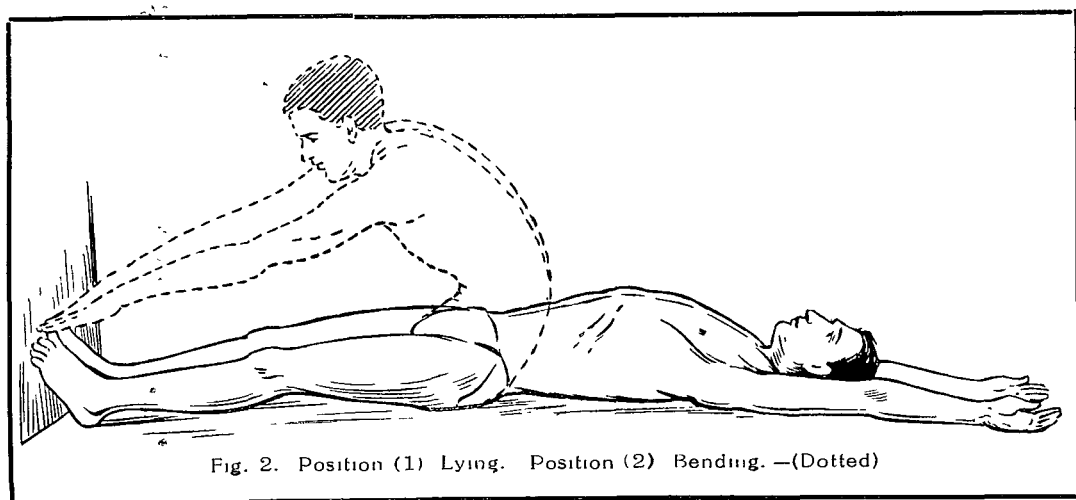


Fig. 2. Position (1) Lying. Position (2) Bending. —(Dotted)

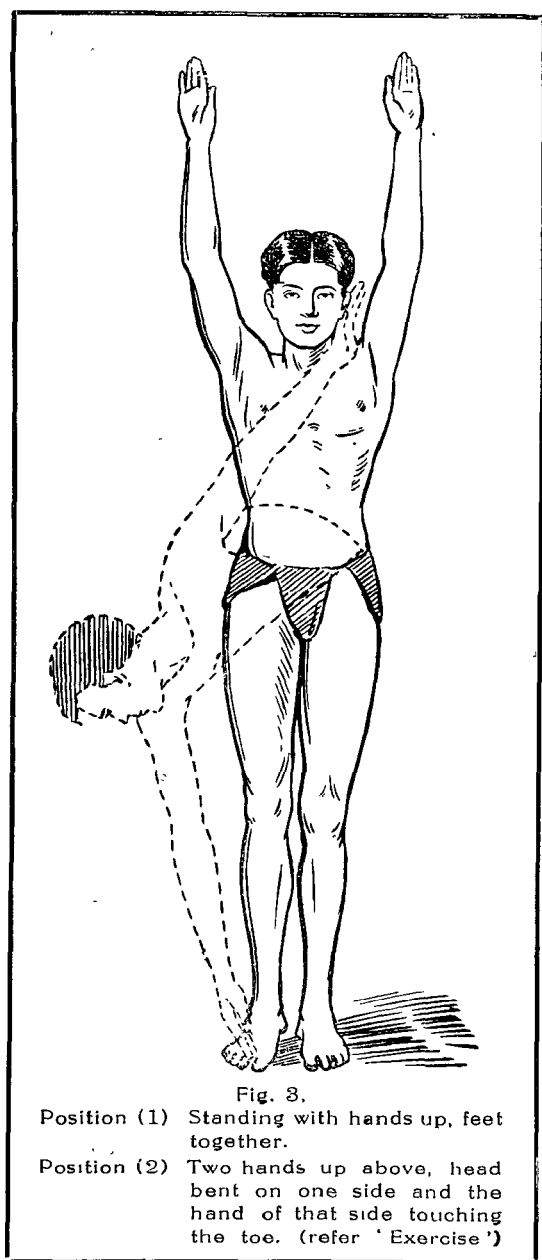
previously, at the termination of this period, very much "impurity" will be discharged, especially after taking 'Jalap' and 'Calomel'.

Aperients during sickness are also almost injurious, while temporary relief is afforded by purgatives; delicate mucous membrane of intestinal tract is weakened thereby, a sort of chronic catarrh is induced and the very condition sought to be removed is aggravated tenfold. Purgation produced by drugs is an unnatural condition. Intestinal canal is a part of a living organisation and needs no force to propel its contents on their way; nor can such force be applied

bowels *regularly* and at *fixed hours*—no matter whether you feel the call or not. (b) The call must be obeyed immediately—no matter how inconvenient be the time or the place. (c) Always spend sufficient time over it. Do not hurry. (d) Closets should be clean as dirty places are a hindrance (psychically) to a free motion.

2. *Exercise* :—Daily morning walking exercise gives the necessary stimulus, especially when a tumbler of cold water is very slowly sipped, the first thing in the morning after getting up. Abdominal exercises and abdominal massage are very useful adjuncts. Bending exercises are good

abdominal exercises. *Fig. 1.* Massage can be conducted simply by the hand in naked abdomen by following the line given in the diagram, repeating



15—20 times. *Fig. 2.* Lie down on the floor with feet fixed under an almirah etc., and then bring your hands forward over the head and try to touch the toes without the knees bending or the feet lifting up.

Fig. 3. Let the person stand erect with feet joined together and try with one hand to touch the ground without bending the knees.

3. *Food*:—It should contain sufficient quantity of starches and fats and less of mineral foods as the latter leave very little residue. Animal foods should be taken sparingly. Food must include green vegetables and fruits especially salads, spinach, prunes etc. Water is an extremely valuable adjunct. Some of it must be taken with meals and in sufficient quantities between meals. Strictly avoid spirituous liquors, highly seasoned foods and late suppers. Wholemeal flour (especially brown) *i. e.*, flour from which bran is not removed is one of the best natural laxatives. Flour of hand mills ("chakki") is the best; next in order come those of "kharas" (mills worked by cattle), water mills and lastly of mills worked by machinery.

4. *Medicinal*:—In case some sort of medicine is required after all is said, to remove temporary costiveness, enemas are always preferred. Simple warm water, with or without soap, or oil is used. Glycerine injection or glycerine suppository is also good. Out of the drugs, the best I can suggest (if at all required) are:—Liquid paraffin, olive oil, senna pods, manna, compound liquorice powder and lastly castor oil which should better be given in teaspoonfuls than in half-ounces. These drugs should better be administered at bed time and the dose decreased daily till a good motion is got regularly without their use.

Remember, the conditions required for a good purgative are: It should

cause no pain or discomfort and should be non-irritating. Saline and mercury purgatives like Epsom salt, calomel etc. should always be avoided because they act by irritating the bowels. I remember, a doctor friend of mine, recounting to me what he was told in London by another doctor there, whom he had consulted during his illness and himself suggesting to take calomel and saline: "These purgatives are meant for donkeys, not human beings." Well can the public gather

the injurious effects of these from the above reply. Remember also, that these salines when given cause constipation again the next day to relieve which another purge is taken and a vicious circle is thus set up. The aim should be to get a good free motion daily with or without a purge and I can tell you by experience that the natural methods enumerated above will seldom fail to bring in the desired effects without having recourse to the use of medicines.

THAT Science has contributed to the benefit of Mankind is a controversial question. It will be agreed that inventions for preservation and longevity of human life are quite insignificant in comparison to those meant for its annihilation. Poison gas is one of these. The ruthlessness with which this weapon of offence was used in the last Great War leaving in its trail, indescribable miseries, human sufferings, and incurable deformities constitute one of the darkest chapters in the history of the world. Only recently, this poison gas has wiped out the Ethiopian Empire from the map of the world and subdued a brave and an independent nation. We shall leave the question of its military significance to those entrusted with the task of Indian defence. In putting this paper before you for publication, I have been guided by two points: *i.e.*, (1) The subject being new, and probably untouched, might provide a change: (2) From the Safety-First point of view.

Poison gas is divided into two

POISON GAS

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groups, *i.e.*, Non-persistent and Persistent. Non-persistent ones are all gases. These will readily drift along with the wind. They are less dangerous. But these are like double-edged weapons, since, if the direction of the wind changes, the gas might drift towards the home camp with disastrous results. From the effects which they produce on human body they are :

1. **Choking gas.**—A lung irritant, attacks the lungs and air passages producing an attack of coughing, vomiting, irritation of the eyes, gradually breathing becomes difficult. Blood vessels are distended, face is flushed, pulse is full and bounding. Death takes place due to deficiency of Oxygen. If 12 hours pass, the patient is out of danger. *Treatment.* Remove the patient from the danger zone. Loosen all tight clothings. Complete rest with warm blankets and hot water bottles to the feet. Inhalation of

Oxygen to tide over the critical period.

2. **Nose Gas.**—Is an irritant smoke, causing pain and discomfort in the nose, producing a sense of dryness in the throat, nose, and air passages. The effects soon pass off. Remove the patient from the affected area and he will recover.

3. **Tear Gas.**—Employed by gunmen in America and Police on the

looked. It is absorbed by the skin. It evaporates and its effects are persistent. This is dangerous in many ways. The ground on which this has splashed gives out vapour which may affect the eyes, lungs, exposed parts of the body. Vapour may be absorbed by the clothes, may penetrate into the skin and cause burns even after the clothes are removed.

If the contaminated objects are touched blisters may form. A person



Gas mask gives protection from Poison-gas.

Continent to disperse an unruly mob. It is an irritant to the eyes causing smarting and profuse flow of saliva and lachrimation making it impossible to see. Effects are temporary and soon pass off leaving no damage to the eyes.

4. **Blister Gas.**—Irritant. In severe cases causing deep and extensive blisters.

Now we come to the second group, the Persistent ones.

Mustard Gas.—An oily liquid with faint smell. This is readily over-

who is contaminated may be a source of danger to others. A man whose boots are splashed may give out vapour from his boots and this may cause injury to others in the room. The gas is only recognised by smell. This may pass off unnoticed. Symptoms appear after 2 to 8 hours when it is too late. Eyes are most affected. They get sore, swollen, accompanied by severe pain in head, eyes, sore throat with dry cough. The severity of burns depends on the concentration of gas. Thus, if more gas is present, short exposure will cause blisters.

We should be fully aware of the knowledge of aircrafts, bombs, explosives and their effects on human bodies, knowledge of preventive medicine, of methods of decontamination of clothings and other articles. In untrained population, the damages caused by air raids are enormous. Knowledge of air raids and how to avoid them, can be best propagated by means of cinema films, lectures, nurses. The whole country cannot be attacked as it would require a great number of aeroplanes.

There are several gasmasks in the market. It has a rubber covering for the face and a filter is there through which poisonous gases go to the lungs after having been thoroughly filtered. This filter contains charcoal and wool. It is, however, ineffective against mustard gas in the face. But other parts of the body are fully exposed. Mustard gas causes great damage to the skin. It burns the skin. It is not like ordinary burn. Erythema and blisters appear on the skin. It is not permeable on glass, metal. If mustard gas is sprinkled on food and then eaten, it would cause blisters in the alimentary canal. It takes 5 minutes to get absorbed in the skin and 20 minutes in clothings.

Treatment.—No time must be lost. All clothings must be removed. Remove liquid by swabs of cotton wool. Apply petrol or liquid paraffin on it. Then apply bleaching powder mixed with water to form a paste (One part of powder and two parts of water. This paste may be kept for any length of time if it is kept in tightly closed enamel jars.) Keep this for one minute and then wash off with water. Burns on the skin may be treated by cod liver oil or tannic acid.

Eye Treatment—The eyes must be washed with normal saline or water avoiding contamination. Apply atro-

pine ointment 1 P.C. No cocaine must be used. Avoid sepsis from blisters.

Lewisite should be similarly treated.

Even after complete recovery, nervous troubles such as photophobia and aphonia should not be lost sight of.

‘Safety-first’ Methods.—*How to make a room gas-proof.* Inexpensive materials and simple methods. This is from the ‘House-holders’ Air Raid Precautions Chart’ showing The British Home Office Instructions.

When all nations are making frantic efforts to prepare themselves against the threatened gas attack from the enemy, it is a matter of great regret that nothing is being done in India on a large scale. The following instructions will be very useful.

It is a wise step to keep the public as scattered as possible. The home is the proper shelter for air raids.

A room 10 by 10 feet will accommodate 5 persons for 12 hours. A cellar is best. Next, a basement or a room on the ground floor with one window on the side of the house away from the wind. Fill in all cracks with pulp made from sodden newspaper and then pasted over with brown paper. Blankets should be kept wet. Ceiling, crevices in the walls, doors, windows, key holes, should be treated in this manner. The following articles should be kept handy. String, hammer, nails, scissors, gummed paper, adhesive tape, pot of paste or gum, (This can be made by boiling flour and water,) Brown paper, newspapers, a bottle of smelling salt, some safety pins, cottonwool, tinned food, plenty of water, hot tea or coffee. When the warning of the raid is given, close all doors and windows. Put out fires. Turn off gas. By second call, see that all are in the room. Third, seal the entrance. Rest quietly. No smoking.

ANTE-NATAL PSYCHIC INFLUENCE ON CHILDREN

TAGORE, in 'Gitanjili' says, "The sweet, soft freshness that blooms on baby's limbs—does anybody know where it was hidden so long? Yes, when the mother was a young girl it lay pervading her heart in tender and silent mystery of love—the sweet, soft tenderness that has bloomed on baby's limbs". Turning from the poet and philosopher, to a scientist and sociologist, Marie Stopes says in 'Sex and the Youth', "There is a deep truth in the old idea, difficult though it be to prove however, that the essentials of a child's disposition are laid down already in the first three months of pregnancy". This idea has been dealt with rather well and clearly in the Ayurvedic system of medicine, according to which, the woman who wishes to have a particular type of child should think of the form and biography of persons of that type as a routine during pregnancy. Scientific proof is wanting in this, no doubt. But we have some data, indirectly though, to prove that children conceived when the parents are in a temporary unhealthy state of mind are so inferior as to be markedly and seriously anti-social. Florel on 'Sexual Question' in 1908 says, "The recent researches of Bezzole seem to prove that the old belief that the bad quality of children conceived during drunkenness is not without foundation. Relying on the Swiss census of 1900 in which there

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figure 9000 idiots—the author has proved that there are two acute annual maximum periods for the conception of idiots (calculated from nine months before birth) the periods of carnival and vintage. In the vine growing districts the maximum conception of idiots at the time of vintage is enormous whereas it is almost nil at other periods".

We have the obstetricians telling us that sudden emotions of fear surprise, grief, anger etc. may produce unusual results owing to the extreme sensitiveness which many women experience during pregnancy. Sajous, in his Analytical Medicine, under the heading 'Nervous and mental irritation during pregnancy' says, "The birth-marks or stigmata with which many children come into the world are often traceable to the mental impressions or a disordered imagination and many of the monstrosities among infants may be fairly accounted for in this way. A woman whose mind is diseased may produce a persistent impression upon her unborn child which will manifest itself at a later period upon the child's physical and mental structure". To cite a few instances recorded in the best medical periodicals:—

*A paper, read at the meeting of The Malabar District Medical Association, held on 23-4-38 at the Government Headquarters Hospital, Calicut.

1. During the second month of pregnancy the mother was terrified by a bullock. The child reached full-term and was well-developed, still-born. Its head exactly resembled a miniature cow's head. (*Lancet*, November 1, 1890)

2. A lady, when pregnant was much interested in a story in which one of the characters had a supernumerary digit. Her baby had a supernumerary digit on one hand.—(*British Medical Journal*, March 2, 1895.)

3. A healthy woman with no skin blemish had during her third pregnancy a violent appetite for sunfish. Her husband as a surprise brought her some sunfish alive placing them in a pail of water in the porch. She stumbled against the pail and the shock caused the fish to flap over the pail and come in violent contact with her leg. The child (a girl) had at birth

a mark of bronze pigment resembling a fish with the head uppermost on the corresponding part of the same leg. Daughter's health good; throughout life she had a strong craving for sunfish, which she has sometimes eaten till she has vomited from repletion. (*American Journal of Obstetrics*, February 1898).

4. When the mother was pregnant, she saw her husband bleeding a sow

by cutting a notch out of both ears. The helix of each ear of her child was gone, for nearly or quite half an inch, as if cut purposely. (*Medical World* 1894)

With all that, the tendency of a majority of scientific authorities is still to treat this idea of maternal impressions as incredulous and superstitious. Their arguments are:—

1. It is a primitive belief of unscientific origin.

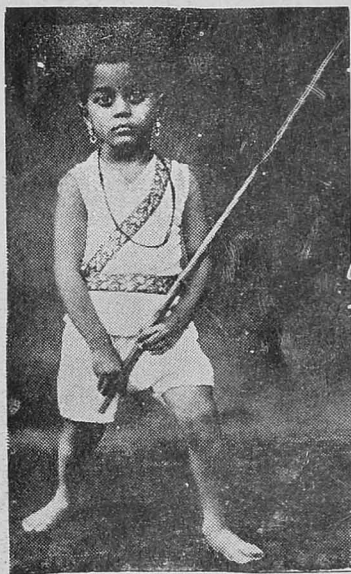
2. It is impossible to conceive how such influences can operate since there is no nervous connection between mother and child.

3. Comparatively few cases have been submitted to severe critical investigation.

4. It is absurd to ascribe developmental defects to influences which arise long after the foetus has assumed its definite shape.

5. In any case the phenomenal must be rare.

The scientific eminence of those who accept the idea of maternal impressions makes the rejection rather difficult. Some agree to the physical conditions but not the psychic dispositions caused by maternal impressions. Havelock Ellis in 'Psychology of Sex' 1912, says, "We can again as suggested by Fere very well believe that maternal emotions act upon the womb and produce



Master BHAYASAHEB KAULAGIKAR, Tasgaum, aged five years and a boy-expert in whirling Dandapatt lathi, Jambia and other physical works and has been awarded many prizes and medals under the guidance of Prof. Manikarao, wellknown Gymnastic Master and a Director of Physical Institution, Baroda.

various kinds and degrees of pressure on the child within so that apparently active movements of the foetus may be really consecutive on the unconscious maternal excitations. We may also believe that, as suggested by John Thomson, there are slight inordinations in utero, a kind of developmental neurosis, produced by some slight lack of harmony of whatever origin and leading to the production of malformations. We know finally, that, as Fere and others have repeatedly demonstrated during recent years by experiments on chickens etc., very subtle agents, even odours may profoundly affect embryonic development and produce deformity. But how the mother's psychic disposition can, apart from heredity, affect specifically the physical conformation or even the psychic disposition of the child within her womb must remain for the present an insoluble mystery, even if we feel disposed to conclude that in some cases such action seems to be indicated". But we have to admit as Alfred Wallace has said that the question of purely mental effects arising from pre-natal mental influence on the mother has not been separately studied. This pioneer naturalist of unusual foresight and penetrating observation is, you know, the co-discoverer of the Principles of Evolution with Charles Darwin. He thought that the transmission of mental influences from the mother to the child was neither impossible nor even improbable. To quote from a letter of his published in the August issue of 'Nature' in 1893 *i.e.*, 45 years back, "The popular belief that pre-natal influences on the mother affect the offspring physically producing moles and other birth-marks and even malformations of a more or less serious character, is said to be entirely unsupported by any trustworthy facts, and it is also rejected by physiologists on theoretical grounds. But I am not aware that the question of

purely mental effects arising from pre-natal mental influences on the mother has been separately studied. Our ignorance of the causes or at least of the whole series of causes, that determine the individual character is so great, that such transmission of mental influence will hardly be held to be impossible or even very improbable. It is one of those questions on which our minds should remain open and on which we should be ready to receive and discuss whatever evidence is available; and should a *prima facie* case be made out, seek for confirmation by some form of experiment or observation which is perhaps less difficult than at first sight it may appear to be. In one of the works of George or Andrew Comb, I remember a reference to a case in which the character of a child appeared to have been modified by the pre-natal reading of its mother, and the author, if I mistake not, accepted the result as probable, if not demonstrated. I think therefore it will be advisable to make public some interesting cases of such modification of character which have been sent me by an Australian lady in consequence of reading my recent articles on the question whether acquired characters are inherited. The value of these cases depends on their differential character. Two mothers state that in each of their children (three in one case and four in the other) the character of the child very distinctly indicated the pre-natal occupations and mental interests of the mother, though at the time they were manifested in the child they had ceased to occupy the parent, so that the result cannot be explained by imitation". So we see that an observant mother can correlate her mental impressions during pregnancy with the character and disposition of the child afterwards. And most of the mothers agree to believe that the mental condition of the expectant mother has

a profound influence upon the child. Marie Stopes says, "That our mental states can affect not only our spirits and our points of view, but actually the physical structure of our bodies, is demonstrable in a hundred different ways, and appears either to be proved or merely suggested according to the bias and temperament of the one to whom the demonstration is made. But there is one at least of these physical correlations which can be demonstrated with scientific thoroughness, and which proves beyond doubt that the mental state of the mother has a reaction upon her infant even after it has severed its physical connection with her, and is a baby of a few months old. This fact is that a nursing mother who is subject to a violent shock which results in a paroxysm of temper or of terror in her own mind, conveys the physical result of this to her infant when next she nurses it, so that the child has either an attack of indigestion or a fit. The effect of the mother's mental state is transmitted by the influence on the milk, the chemical composition of which is subtly altered by her nervous paroxysm and which thus acts as a poison to the infant. We cannot stop at this stage simply because "the child is yet too young for us to understand its resulting mental state". To a logical conclusion the argument is as follows:—

1. The mother's intense mental experience and consequent nervous paroxysm have a physical result upon the composition of her milk;

2. This physically altered milk has a physical effect upon the infant who shows other and more extreme forms of physical distress;

3. This physical distress must obviously, to some greater or lesser degree, affect the child's nervous system; and

4. Consequently the child's mental state will be affected—although it is

too young to translate this into conscious forms.

Such being the case, "a much more subtle and closer correlation must exist between the mother's mental states and the child when it is not yet free and independent in the outer environment of the world".

As Havelock Ellis says, "The mother is the child's supreme parent". So the thought forms of the mother during the ante-natal period influence the child's mental and physical conditions afterwards, the markedness and clearness of those influences depending on the intensity and definiteness of maternal thoughts. The occurrence of grand-parent's traits in children, the anti-social attitude of the illegitimate children and the revolutionary tendency among the people have all their origin in the maternal thought forms during pregnancy. This is clear to any one with an intelligent imagination. It becomes evident to others also when the mental impressions of the mother regarding certain traits of her and her husband's parents, the detestation of and desire to avoid the coming pregnancy in unmarried mothers and the secret feeling of revolt and bitterness of the unwillingly pregnant and suffering mothers are considered. So, in the words of Marie Stopes, "The time is now ripe for a definite statement that the view that the pregnant woman can and does influence the mental states of the future child is today a scientific hypothesis which may be shortly proved". With this view in mind, if we pay some attention to the psychic aspect also in the ante-natal care of mothers, now done, we shall have the future citizens more healthy, both physically and mentally. And as Charlotte Gilman says in 'Women and Economics', "To leave in the world a creature better than its parent, this is the purpose of right motherhood".

Influence of Unemployment on Health

DR. VICTOR R. WALKER, M.O.H., finds it difficult to produce any evidence that unemployment has exercised any significant influence on the health or physique of children or adults at Lowestoft. "But," he continues, "where working class wages in an area are relatively low from industrial depression, poverty and hardship are determined by the number of dependents in the family group and their food requirements. It is certain that the local industrial depression was increased during the last year and, particularly in the fishing industry, where a family is numerically fairly large, hardship may be almost as great when a wage earner is employed as when he is on unemployment relief. It is certain that the mother of such a family usually makes the greatest sacrifice. Hence the recent rise in the number of deaths from congenital weakness and prematurity raises the possibility that expectant mothers may lower their own health through self-deprivation of essential food-stuffs, with deleterious effects on the nutrition of the unborn child. Physiologically the needs of an expectant mother should be looked upon as equal to between one and a half and two units. However, it is possible that expectant mothers might hold the mistaken view that such was selfish, since a child prior to birth is seldom considered a separate entity with its own needs. Certainly, application for nutritional assistance in the form of free milk is infrequent prior to relatively late in pregnancy

or actual childbirth." Dr. Walker adds that the valuable provision of nutritional assistance together with other social agencies must undoubtedly contribute to the recently lowered infant mortality rates in the whole first year of infant life, but that in the absence of application by expectant mothers the present provisions may not always prevent some infants born weakly from failing to survive the first month of life.—*Medical Officer*.

Sheep's Milk for Nurslings

GERMAN investigators have found that ewe's milk is excellent for infant feeding. Probably few Americans know that it is much used in certain foreign countries. The annual world yield is estimated at five billion liters, as against seventeen billions of goat's milk and 270 billions of cow's milk. According to a foreign correspondent of the *Journal of the American Medical Association*, who furnishes the above information, the milk of ewes is found more easily digestible and more nutritious than that of either cows or goats.

It was found that the ingredients of ewe's milk depend on the state of lactation, variations being greater than with cow's milk and human milk. Ewe's milk is far superior to the milk of goats and cows in fat, protein and mineral content. It gives better results with nurslings than does cow's milk. Even if the babies were suddenly taken off cow's milk and placed on ewe's milk, the substitution was always satisfactorily accomplished. Nurslings who had gastro-enteric catarrh when fed on cow's milk, were cured when placed on the milk of ewes.—*Good Health*, (U. S. A.)

Prohibition

PROHIBITION, as generally understood, is the legal enforcement of total abstinence from the use of alcoholic liquors as beverages. There may be degrees of enforcement, such as exempting certain classes from the application of the law, or excepting light wines and beer from the category of drinks ; yet Prohibition in its truest sense works to prevent the drinking of alcohol. For, positively, alcohol injures the human system.

We are not in favour of Prohibition for some countries, considering the drinking habits of those countries. Unless Prohibition is supported, not alone by talk in its advocacy, but also by the drinking habits of the great majority of its people, and especially legislative and law-enforcement officers, it will ultimately fail in any country. It simply does not work for men to vote Prohibition on the other fellow and not practise it themselves. In America,—that great country of the Prohibition experiment,—it is called, “voting Prohibition with a whisky breath.” And the Prohibition enforcement officer who imbibes liquor himself, or who is susceptible to bribes from liquor dealers, does not get very far in making Prohibition successful. If the large majority of the people and their ruling class in a country were thieves and did not want to be honest, a law against thievery would be a joke. A law is enforceable only when and so long as it represents the conviction of the people among whom it is to operate.

The foregoing is not to say that we do not believe in temperance for all people. We mean by temperance

total abstinence from all that is injurious and a moderate use of all that is good. Therefore it means total abstinence from beverage alcohol. Temperance is self-control. It is an individual matter over which the state has no control ; for self-control cannot be enforced outside of self.

When a people is made up very largely of those who, for health or religious reasons, do not use intoxicating beverages, and of others who do use them but are quite willing to forego their use if the temptation which overcomes their weak wills is removed, then Prohibition could and should be enforced. No people can afford to tolerate anything that preys upon the health and morals of its unfortunate ones. If India is, to a great degree, temperate already as regards alcohol, and we believe it is, then Prohibition would work here for the good of all concerned. Certain interests might be hurt at first, and the introduction of Prohibition is sure to cost self-sacrifice on the part of many ; but finally everybody is benefited.

America is the favourite horrible example for those who oppose Prohibition for India. But America is no parallel. Prohibition did not fail in America. It was never enforced ; and therefore not given a fair trial. And it was not enforced because a bare majority (though there is some question about the majority) supported it with their votes, but not all of these supported it with their thirsts. If a major group of Indian voters really want Prohibition for themselves and their countrymen, the scheme will work ; and with its working will come the realization of many of the political, economic, and social ideals so long desired.—*The Oriental Watchman*.

Health Tit-Bits

Imaginary Ills

"THE worst I have suffered" said a woman, clever but weak in the nerves, "has been from misfortunes that never happened to me".

Her meaning was plain. She was one of those people who go half way to meet trouble - even when trouble isn't on its way to them.

These people torment themselves with the thought of what might happen if.....

They go through agonies of apprehension as to what they shall do when.....

They puzzle and becloud their brains by asking themselves miserably how...

More often than not they find that they have disquieted themselves in vain.

The evils they fear do not materialize, the thunderbolts they shrank from do not fall.

Even if their fears are justified, they find, as a rule, when misfortune comes that it is not so terrible as it looked from afar off.

Truly, the disasters we imagine are worse than any we are likely to experience. The needless alarm and despondency we inflict upon ourselves are vastly more painful than our sufferings from outside causes.

Let us bear misfortunes, when they must be borne, with courage, and above all let us not be victims to imaginary ill.—*M. Arunachalam.*

Father of 27 Wants More.

AN old age pensioner of 65 had his twenty-seventh child born early in February. He hopes to be the father of more. Twenty-three of the children were born to his first wife. He said "I have so many children because I like children."—*B. C. N.*

Vitamin P.

A NEW vitamin, Citrin, or vitamin P, has been isolated from lemon juice and proved to be an essential factor in the control of capillary hemorrhages, according to A. Bentsati, S. Rusznyck and A. Szent Gyorgi, who have reported their findings in '*Nature*' (London).

A New Invention.

A MACHINE, in which human hearts can be revived after death and made to resume their normal function, has been developed by Dr. William B. Kountz, of Washington University. The doctor says that he has been able to bring back to normal functioning more than one hundred hearts after they had ceased beating in the body for as long as six hours.

—*Druggists Circular.*

LADY Reformer: "You notice I place the worm in water, it wriggles, it lives! I then place it in a glass of vile whiskey. Notice, it dies a sudden death. Does this, ladies and gentlemen, mean anything to you?"

Man in the Audience: "Yes, it means I'll never have worms."

—*The Technique.*