

universe. If he does, and carries them into practice, he can rest assured that even in a seemingly comparatively small matter such as this, his future

health will more than compensate for any long-cherished habits which may have to be given up in the process.—*Health for All.*

THE CASE AGAINST ALUMINUM COOKING UTENSILS.

An article published in "The Healthy Life," London, England, contains an article which almost completely covers the aluminum situation or "The Case Against Aluminum Cooking Utensils."

Scientists in various parts of the world are now investigating the subject of aluminum compound poisoning especially those generated by the use of aluminum cooking utensils.

We are having extensive group poisonings in various parts of the world which often times are near tragedies, and at others death occurring.

In practically all cases investigated aluminum has been found to be the utensil used for cooking and storing of food from eight to twelve hours before serving. Without question generating chemical poisons which have slow, cumulative and at other times acute effects.

Dr. George Donaldson, Ph.C., M.P.S., is here quoted in the above named magazine, regarding his findings upon the manufacture of chemical poisons by the use of aluminum cooking utensils.

"I—ON CHEMICAL GROUNDS"

"Aluminum is acted on by acids with which it forms salts and also by solutions of certain salts, notably common salt, i.e., sodium chloride, with which it forms a double chloride,

"There is always a certain amount of oxide on the surface of aluminum no matter how highly polished. This can easily be proved by rubbing a piece of aluminum with a clean white rag.

"It may be argued that fruit acids are in too weak a concentration to act on the metal, but, on the other hand, they are never in too weak a concentration to form salts with the oxide. It is well known that boiling fruit in an aluminum saucepan will make the pan look bright and clean, and since the bulk of our fruits contain either citric, tartaric or malic acids we should get either citrates, tartrates or malates of aluminum in our stewed or baked fruits.

"Should a solution of an alkaline carbonate stand, even for a short time, in an aluminum vessel it will turn the inside of the vessel blackish due to the formation of aluminum hydroxide or oxide. The soluble chlorides in our food, particularly the sodium chloride, would form double chlorides with hydroxide or oxide, and the soluble sulphates would form double sulphates or alums, (common alum is the double sulphate of either aluminum or potassium and aluminum.) Further, the sodium chloride attacks the metal itself without the intervention of an alkaline carbonate to form oxide.

"In my apprenticeship days, I well remember how aluminum bicycle wheels

used to become corroded and pitted at the seaside.

"Since our vegetable foodstuffs contain alkaline salts and chlorides, it will be evident that aluminum utensils are not suitable for the cooking of vegetables and potatoes. In my opinion aluminum ware is suitable only for boiling water, heating milk (which should be done quickly), and for frying. It may be said that the amount of aluminum salts consumed per day through food cooked in aluminum ware must be very small multiplied by 365, it will be quite

a respectable quantity at the end of the year.

Aluminum salts precipitate albumen, their effects are therefore likely to be cumulative.

"Some people are more susceptible to aluminum poisoning than others, and these susceptibles would naturally be the people to suffer most. Symptoms would at first be mild and indefinite, but would gradually increase, and the cause would be very likely overlooked."—*Western Medical Times.*

HEALTH NEWS AND NOTES

The Eat-More-Pepper Campaign.

—Campaigns to induce people to eat more meat, to smoke more tobacco, to drink more coffee and to drink more tea, and to do various other harmful things have become more and more active for some years back; and now we have a campaign to induce people to eat more mustard, pepper, pepper sauce, ginger, horse-radish, cayenne, capsicum and other hot things, announced as follows in *Business*:

"Dietetical habits of the average American have undergone such changes in the past few years that spice manufacturers are confronted with a serious drop in the consumption of their products," Albert H. Doolittle, manager of the American Spice Trade Association, told the spice grinders' group of that organization in the Hotel Astor yesterday. 'Consumption of fruits, vegetables and other foodstuffs unflavored by spices,' he added, 'has been growing steadily for some time because of the unfounded belief that such methods of food preparation were healthful.'

"Members of the association, holding their annual meeting to-day," Mr. Doolittle said, 'will be asked to underwrite a substantial increase in the organization's budget with a view to correcting the public's misunderstanding of the food value of spices?'"

The spice makers are undertaking what they call an educational campaign which, in fact, is nothing more or less than an insidious program of misinformation. Under the guise of education the public is led to believe as scientific facts statements which have no sound basis whatever in scientific research but which are most misleading and prompted by no other purpose than to increase the sale of meretricious products that are condemned as harmful by every respectable authority on dietetics. They have no dietetic value whatever and there is no place for them in scientific cookery. The only excuse for their use is to conceal the defects of bad cookery.—*Good Health.*

* * *
Sun-bathing Methods.—A pamphlet for holiday-makers drawn up by Dr.

Some interesting facts about Guinea-worm.

Infective season when Guinea-worms come out on skin surface is usually March to June, so efforts of prevention should be concentrated in these months.

Fish of the Genus *Barbus* eat cyclops but this fish does not thrive in step-wells.

Natural infection with Guinea-worm occurs in many animals in addition to

man, as in dogs, cattle, horses, monkeys, and snakes as cobras.

The concentration of Hydrochloric Acid in the juice in the stomach is a factor which influences infection in man. Hydrochloric Acid of 0.6 to 1% practically destroys Guinea-worm embryos.

Handful of Bamboo leaves put in a potful of infected water kills cyclops and so also the juice of Bamboo shoots kills them.

Eczema

By

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THE word Eczema is derived from the Greek word 'Eczein' (ek, out and Zeein, to boil) meaning to "boil over" or "burst out". Literally it means an eruption. The scientific use of the term has a restricted application. It is used to denote a special catarrhal inflammation of the skin of a defensive nature to an unknown toxin arising in the body. The skin tries to eliminate this toxin to localized areas. The reaction set up in the localized area of skin resembles very closely that produced by a mild or severe irritant to the skin, e.g. mustard plaster. This produces a reddening of the skin with a pricking or burning sensation. Later vesicles and blebs form and on bursting leaves a weeping raw surface, etc. One readily sees the close relationships in the two conditions, but in the case of eczema the toxin or irritant is derived from internal sources.

That the condition does not arise from microbic infection has been satisfactorily established. An eczema may become secondarily infected by pus-forming organisms from its exposed position. The exudation when present may also favour the growth of organisms. Eczema as pointed out above is a catarrhal inflammation of the skin and this requires a word in explanation. The catarrh may be obvious at sight as a weeping which stiffens the linen or bandage; or, it may be present confined in the different layers of the skin causing a swelling of the affected part with subjective discomfort. This state may also give rise to light scaling of the outer layers of the skin which may be hard to the touch.

Certain conditions predispose to eczema, as dry skin, varicose veins and elephantiasis (filarial) of legs, etc. In the two latter conditions, the natural drainage is at fault and in dry skin there is an absence of the natural grease, which keeps the skin glossy and pliable. Asthmatics very often suffer from eczema. Eczema and asthma do often alternate; when asthma is on, the eczema is better or

healed up, to break out again when the asthma is better. Diabetics also suffer from eczema and the predisposition arises from the higher sugar contents in blood.

Heredity can be traced in a number of cases where many individuals suffer from eczema. Seasons may aggravate the condition and it is considered to have little or no influence in the causation of Eczema.

Symptoms:—The patient usually complains of itching, burning or intense local discomfort. Generally the subjective symptoms vary a good deal; what in one is a slight discomfort may appear in another as an intolerable pain. When the condition is acute and extensive, there may be fever and general malaise. Local trouble may also be greatly aggravated when pus organisms invade. Intense itching might render the person sleepless and look run down. In short, all signs and symptoms of an acute inflammation—heat, redness, pain, swelling and disturbance of functions—may all or severally be present with varying degrees of intensity according to the individual make-up. There is a certain degree of exaggeration from a neurotic patient.

Clinical varieties:—Recognition of certain clinical varieties is helpful in treatment. *Vesicular and papular* varieties may be confused with other conditions. *Weeping* eczema is easily recognised by the serous discharge which stiffens linen or runs down the parts drying with crust formation. If the crusting takes place over the affected part, it is designated as *crusted* eczema. When the surface is bright or dull red and exudation slight, it is

termed a red eczema (*Eczema Rubrum*). Warty and indurated appearance will give rise to a chronic variety known as *warty* eczema. Another chronic variety is *scaly* eczema, and is easily recognised.

Prognosis:—If intelligent care and attention can be devoted, eczema should be regarded as a curable condition. General condition of the patient will also require attention and should be brought up to par in both chronic and acute cases. Asthma and diabetes will call for special lines of treatment, as eczema is a common accompaniment of both these diseases.

Treatment.—The part should be at rest and the crusts removed by painting with olive or coconut oil, or the application of a boro-starch poultice applied over night. If swelling and redness be intensive boro-starch poultice may, with profit, be repeated for three or four nights. When clear of crust, soothing applications will be required. If weeping is prominent a lotion is more appropriate. Two level tea-spoonfuls each of calamine and zinc oxide in 6 ozs. of lime water will make the very commonly used *calamine lotion*. This may be mopped on to the part freely and frequently, or a small piece of lint spread over the affected part may be wetted frequently. In 48 to 72 hours, the weeping will have stopped and the part is ready for another kind of application—a paste or a cream. Instead of calamine lotion the part may be bathed in aluminum acetate solution, made by dissolving a level tea-spoonful of aluminum acetate in four ounces of sterile cold water or a tea-spoonful of strong solution of lead acetate in four ounces of dilute

milk, (two ounces of fresh milk and two ounces of water.)

After the application of above-mentioned lotions to stop exudation, a cream or paste is better borne and promotes rapid healing. The best known cream is a zinc cream made by the addition of 4 to 6 tea-spoonfuls of zinc oxide to two ounces of Carron oil (made by mixing intimately one ounce of olive oil and an ounce of lime water.) The cream must be applied evenly and thinly over the part. Most people commonly use soap and water to wash away the cream (or paste): germolene and strongly alkaline soaps are also used. These should not be used. It is easy to remove the old ointment by gentle wiping by means of a small wad of cotton wool dipped in a little coconut oil. This will collect the old ointment and leave the area clean, without the laborious and injurious method of soap and water cleaning.

A paste may be used as an alternative. Zinc paste is commonly used, and may be prepared at home by mixing two tea-spoonfuls each of well-powdered starch and zinc oxide with an ounce

of vaseline. If the paste is tenacious, a little more of vaseline may be added to facilitate application. Old paste is removed by oil as shown above and not by washing.

Warty eczema and scaly eczema will always require the supervision and direction of a medical attendant. The former will have to be daily scrubbed with a pledget of cotton wool dipped in green soap, and the excess of alkali in the soap will help in removing the dead external parts which cause the wartiness. Then a Hebra's plaster should be applied and a firm bandage put on to produce intimate contact. It may be removed once in forty-eight hours and re-applied after the above-mentioned process. In six to eight weeks healing and normal condition would have set in.

Treatment by protein shock and colossal preparation of manganese, vaccines to deal with secondary pus organisms and iodine-casein (Yakencasin) will require the services of a medical attendant and he should be consulted to watch and direct the progress.

SMALLPOX VACCINE FROM HEN'S EGGS

We can remember when the virus for smallpox vaccination was taken from the arm of one suffering from the disease and transferred direct to the other. People shuddered as they feared that other things also might be transferred with the virus. It was a great advance when calf lymph was adopted. And yet—well there are many people who dislike this method almost as much as the previous one.

The *Lancet*, well known British medical journal, is responsible for the statement that smallpox vaccine virus can now be obtained from chicken eggs. Col. W.D.H. Stevenson and Dr. G. G. Butler of the Government Lymph Establishment in England are credited with this remarkable achievement. From 28 eggs the investigators obtained enough material to vaccinate 7,000 persons.

The *Lancet* points out editorially that the new vaccine is sterile; that the method is not as arduous or expensive as the calf lymph and that the yield is excellent. This is a definite advance and seems free from many of the objections brought against calf lymph.

—The *Oriental Watchman*.

Is Consumption Curable?

By

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THE answer to this question has changed considerably during the last 50 years. Before Robert Koch discovered the bacillus of consumption in 1882, the conception of consumption was that it was a very dangerous disease usually fatal, so that in a few cases where recovery was described of a condition diagnosed as consumption the sceptic doubted whether the patient that recovered did really suffer from the disease. After the discovery of the

other tests. Later on by means of delicate biological tests it was found possible to discover that the vast majority of human beings living in all civilized countries had signs of having been infected with the germ of consumption in earlier life though it was only a few that showed signs of the active disease. A combination of the experience of clinicians and bacteriologists has now definitely proved that out of 1000 persons living,

CONSUMPTION'S ALLIES AVOID THEM & YOU ARE SAFEGUARDING AGAINST THE DISEASE



1. Alcohol. 2. Closed window. 3. Over work. 4. Crowded sleeping room. 5. Smoke & dust. 6. Mouth breathing due to adenoids.

consumption and had tubercle bacilli in their phlegm made a decided recovery from their complaint and led useful lives for years after such recovery. In the meanwhile the experience of several hospitals showed that in the post mortem examination of persons whether children or adults, who died from other causes than tuberculosis and in whom no signs of consumption or other form of tuberculosis were discovered during life, there were spots of disease in the lungs, glands or other organs identical with the lesions of consumption or tuberculosis of the respective tissues or organs, in which live tubercle bacilli could be demonstrated by microscopic examination or

not less than 900 have been infected with live germs of tuberculosis some time in their previous lives, usually in infancy and childhood; that perhaps 500 or so have actual spots of disease in some part of their lungs or other organs without showing actual signs of disease: that about 30 to 60 show actual signs of the active disease as consumption, scrofula etc., but about 50 only die annually as a direct result of tuberculosis. If by a careful system of early detection and timely precautions the disease be detected early and suitable active treatment applied the death rate could be still further reduced from 3 to 5 per 1000 to less than 1 per 1000, as has already

been achieved in several advanced countries in the world like England, America, Australia, New Zealand, Denmark etc. It has thus been proved that though the vast majority of human beings become infected most of them recover from the infection, some even after developing early signs of consumption and only a very small minority actually die from the disease.

The modern methods of treatment of consumption have enabled us to cure a larger percentage of consumptives than it was possible to do a generation ago.

Consumption can therefore be said to be one of the most curable of infectious diseases, death being the exception after infection and recovery either naturally or by treatment the rule.

The Role of Vitamines in Daily Life.

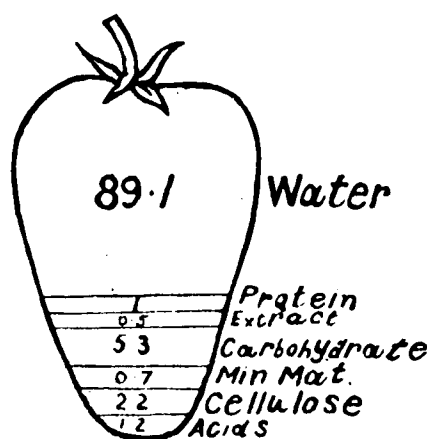
By

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Introduction: — Nothing is more important to physical well-being, and for prolonging human life than the two evidences of a healthy stomach—appetite and good digestion. The materials which make up our food, besides water and the several saline ingredients, are first, the proteins such as meat, eggs, cheese, gluten of wheat, flour, peas, beans etc., second, the fats such as fats of animals butter, cream, cheese, milk, olive oil etc., and third, the carbohydrates, such as starch, sugar, and molasses in all their varieties. In addition to the foregoing, there is yet another group of subtle substances which are considered as absolutely essential for the proper maintenance of health, for the

growth of the body, and for the correct functioning of all the organs. These are known as vitamines and these are indispensable elements for nutrition. In an ordinary dietary these are present in small and in sufficient quantity, but where there are no fresh and natural foods, these essential substances are absent and the lack of them results in what are commonly known as deficiency diseases such as rickets, scurvy, beriberi etc.



Strawberry—A Vitaminous Fruit.

I can very well illustrate the value of the vitamines in our food by the following story. Once there lived in a certain village in England, a husband and wife. They were known for their scrupulous cleanliness. Their house & surroundings were too well cleaned

and disinfected and all their food stuffs were completely boiled and sterilised and nothing natural and fresh ever passed their lips as food. All went on well till their little son Willie was born. Now more vigorous attention was paid to the cleanliness and sterilisation of food. Thus the child was fed on well boiled and completely sterile milk free from all vitamine contents. Days passed but the child did not thrive. Everyday the child was declining in health and this caused the parents considerable anxiety. A neighbour of theirs, a scientist in a neighbouring institution, observed the languishing child and the distressed parents but hesitated to offer them his advice. However, he ultimately suggested to the parents, that by way of a change little Willie may be fed on fresh milk, fresh fruits etc. The parents first viewed with horror this suggestion, but in the end, made bold and tried the same. Wonder of wonders, the languishing child began to show interest in life and look alive. Thus encouraged, they fed their child completely on fresh and natural foods with the result that their child grew up to a fine and handsome boy. This story has a moral. The food which the child first had was completely sterile and free from all natural elements. When however, the same ingredients were supplemented in his diet, the child thrived well. It is these essential principles in the daily dietary which are called vitamines. It should not be understood that these vitamines are necessary only for the young children. If they are essential in promoting growth in children, they are equally essential in maintaining health in the adults. Within our living

memory, during the last Great War, our soldiers who were on active service with the several expeditionary forces in the various theatres of war could not command always fresh foods and several of them had to be repatriated to the base camps with either 'berbieri' or 'scurvy' or any of the other deficiency diseases. There are several instances like these which could be quoted 'ad-lib'. If we only look up the life history of the various exploring parties of the early days and the early navigators of the various seas where it was not always possible for them to command fresh supplies of food, it will be seen that many of them fell sick in numbers and were completely unserviceable and of no use whatsoever.

Thus it will be seen that our daily food must contain the essential vital principles—vital to life. These vitamines are found in all fresh foods in small traces and these substances in addition to promoting growth and maintaining health are also responsible for the actual absorption and utilisation of the various ingredients in our food.

The vitamines are classified into five recognised groups depending on their properties and modes of action. Further investigations are going on and for purposes of convenience only the recognised groups so far are taken and they are designated as Vitamines A, B, C, D and E. Some of these Vitamines are found dissolved in fat, and hence known as fat soluble vitamines, while some are soluble in water and hence known as water soluble vitamines. The main source of all these vitamines is only the plant kingdom. Though some vitamines are found in animal

fat such as cheese, butter, milk etc., of the cows, these cows derive their nourishment only from fresh grass, greens etc., and thus the vitamine contents absorbed from these are stored up in the fat of the animal. Similarly taking another well known example, the cod liver oil found in the cod fishes in the northern seas, the small plankton lives only on sea greens, again entirely plant kingdom. This plankton serves as food for the larger inhabitants of the sea.

Vitamine A.—This is soluble in fat and hence described as fat soluble Vitamine A. This is most essential for growth and for maintaining health. This is found in abundance in milk, cream, cheese, butter, fat, cod liver oil, etc. This is not easily destroyed by heat unless exposed to high temperatures and in the presence of oxygen. As long as boiling takes place in closed vessels this vitamine is not destroyed. The question is often asked whether milk when it is boiled in order to free it from its impurities to be safe for consumption, does not lose its vitamine. The answer is 'no.' The milk can safely be raised to its boiling point and kept on the boil in a covered vessel and still the vitamine content is preserved. The absence of this vitamine leads to failure of growth, weakness, dryness of the eyes, softening and destruction of the eye ball. Further such people lose all their powers of resistance to infection and easily succumb. This condition is cured by the administration of large quantities of cod liver oil and fatty nutritious foods.

Vitamine D.—As this vitamine is closely allied to the foregoing group, for convenience's sake this will be described here. This is also fat soluble

and is found in fats, milk, butter, olive oil, cod liver oil, etc. These two vitamins are either found together or this latter alone is found separately. Unlike the other vitamine A, this is capable of being produced in the body by the action of ultra violet rays of the sun light on the surface covering of the body. The ultra violet rays penetrate the skin covering and act upon the cholesterol content of the subcutaneous fat. Thus the cholesterol is converted into vitamin D, and this exerts its beneficial influence. In the western countries where the sunlight is a rare commodity and only occasional bouts of sunshine are seen and that too more on the seaside health resorts, the holiday makers, when they resort to these places, indulge in a lot of sunbathing and it is no wonder they return fully benefitted and with suntanned face and glowing health. This vitamine is also easily oxidised as the vitamine A. The deficiency of this vitamine, leads to a condition known as 'rickets' prevalent formerly only in the west, but of late, occurring more frequently also in our country, owing to malnutrition. It will not be out of place to give a few salient features of this condition already referred to as rickets. It is well known that Calcium is an important constituent for the proper formation and growth of bones. If calcium is deficient, the bone either does not grow or the growth is delayed. On account of this deficiency, the bones are softened and bend easily on account of the weight of the body. The ends of the long bones are enlarged and thickened chiefly in the neighbourhood of the joints. The skull bones are thin and soft and the

fontanelles do not close and the skull itself presents a peculiar shape which used to be described as resembling 'hot cross buns.' Again due to the lack of calcium on account of the deficiency of the above vitamine, the child is subject to frequent convulsions and at times leads on to tetany. Further on account of the inability to digest and absorb the food, particularly the fatty food, the child passes large quantities of pale fatty stools. 'Ergosterol' which is one of the remedies for this disease is administered by the mouth. Germinating pulses and nutritious fatty foods are given to get over this rickety condition.

Vitamine B.—This is found soluble in water and hence it is styled as water soluble vitamine B. It is found in germinating grains and pulses, yeast, eggs, milk, the pericarp of wheat and rice, that fine dust like powder which forms an immediate investment for the rice, which is unfortunately discarded and which is popularly known as 'bran.' In these days of ultra civilisation when people care to take only fine polished rice, this most essential element is thoroughly removed during the process of milling these grains. What is actually taken in, in the form of rice is only rice minus its vitamine. It no doubt appeases hunger for the time being by its bulk, but it does not render any further help in body building and nutrition. On the other hand, long continued use of this devitaminised rice results in a condition known as Beri Beri. The patient complains of general weakness, swelling of the body, legs and face, weakness of the heart and final collapse. It used to be very common only in China and Japan

and parts of our Presidency where rice was more freely used. But the incidence of this disease in our country and elsewhere is increasing as people have long ago given the 'go-by' for the old hand-pounded rice, and are resorting more and more to the milled and polished rice which has all the whiteness but nothing of the vitamine in it. This deficiency is made good by the free use of yeast, marmite, eggs and milk. Of late, scientists have subdivided this vitamine alone into various subdivisions but the two well recognised ones are B₁, the deficiency of which leads to Beri Beri and B₂, the deficiency of which leads to Pellagra.

Vitamine C.—This is also soluble in water and hence spoken of as water-soluble, 'antiscorbutic' vitamine C., as the deficiency of this vitamine results in a condition known as 'Scurvy.' In the early days during the times of the sailing ships before the introduction of steam engine, and organised navigation, the ancient sailors used to suffer very badly from bleeding gums, bleeding in other places, weakness, eruptions on the skin etc., and such cases have not infrequently ended fatally. Unfortunately before this condition was recognised such sufferers among the crew used to be termed as malingerers. But now, with the advancement of science, things have changed and it is found that this unfortunate condition is the result of ingesting dry and stale foods and want of fresh foods and fresh juices. This vitamine content is present in abundance in lemons and in reasonable quantities in limes, oranges and green vegetables such as spinach, cabbages,

cauliflower, tomatoes etc. The administration of fresh lemon juice, rapidly cures the people suffering from scurvy. Even in these days of advanced speed the supply of fresh goods as oranges, apples and a daily ration of fresh fruit juice are the daily routine on board the vessels. Those who have taken a sea voyage would have noticed that at every part of call, large quantities of fresh fruits and fresh vegetables are taken in and laid in cold storage for the use of the passengers and the crew. It is also present in eggs and milk. There is one snag that we have to beware of. There is an erroneous practice, that when vegetables are boiled and prepared for our daily food, a small quantity of soda or commercial soda, as it is called, is added. This addition destroys the vitamine as alkali destroys the vitamine C. It is hoped that with a view to preserving and utilising this vitamine, it is even advisable to forego the sentiment of taste.

Vitamine E.—This is a vitamine which is absolutely necessary for performing the function of reproduction. Animals deprived of this vitamine in their food, can no doubt thrive well and for all appearances look healthy but they are incapable of reproducing young ones. Conception may occur but the embryo fails to attain full development and dies in utero. This vitamine is present in wheat, oil, butter and certain other fats. It is not destroyed by heat, light, acids or alkalies. It is not yet

actually understood how it acts as it is present only in very minute quantities. Appended below is a list of food stuffs in daily use both by the rich and the poor in our country against which is shown the relative values of vitamine content.

The sign + indicates present.

The sign ++ indicates large quantities.

The sign — indicates deficiencies.

No.	Name of Food substance.	A	B	C	D	E
1	Almond ...	+	++			+
2	Apple ...	+	++	++		
3	Cod Liver Oil...	+++			++	
4	Banana ...		+	+		
5	Bread made with milk ...	+	+		+	
6	Bread made with water ...	—	+			
7	Butter ...	++	++		+	+
8	Cabbage ...	++	++	+		
9	Carrots ...	++	+	+		
10	Cauli Flower...	+	++			
11	Cheese ...	++	++	—	+	
12	Cocanuts ...	+	++	—	+	
13	Cream ...	+++	—	—	+++	
14	Eggs ...	+++	+	—	+	
15	Fish ...	+	+		—	
16	Green Beans...	++	++			
17	Lemon Juice...	+	++	+++		
18	Maize ...	+	++	—		
19	Condensed Milk ...	+++	++	+	+	
20	Fresh Milk ...	+++	++	++	++	
21	Oats ...	+	++	—	—	
22	Onions ...		++	++		
23	Pea Nuts ...	+	++			
24	Pine Apple ...	++	++	+++		
25	Potatoes ...	+	++	++		
26	Pumpkin ...	++				
27	Rice ...	—	++	—	—	
28	Rye ...	+	++			
29	Tomatoes ...	++	+++	+++		
30	Bran ...	++	+++			
31	Barley ...	+	++	—		
32	Dhall ...	+	++			
33	Spinach ...	—	—	++		

Drinks and their Relation to Health and Diseases.

By

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THE subject under discussion is so important and its aspects are so diverse that, in the very beginning, I owe an apology to my readers for possible omissions in my treatment of the matter. As food is necessary for the preservation of the human system, so, the necessity for the administration of drinks in some form is greater for the maintenance of the biochemistry of the human body. Drinks may not ordinarily be classified strictly as food but for the maintenance of life they are none the less essential. Drinks in various forms include Water, Aerated water, Coconut water, Sherbets, Milk, Tea, Coffee, Cocoa, Toddy, Liquor, Wine, and other allied spirituous preparations. I propose to consider the different kinds of drinks in the order mentioned.

(1) *Water*.—It is a primary form of drink for sustaining life. Hindus considered it to be one of the five essential elements of the universe. Now a days it is well known that it is composed of Hydrogen and Oxygen in the ratio H_2O . Though ocean is the vast reservoir of water we get our water from the following sources: (a) Rains, (b) Rivers (c) Tanks, (d) Wells, Springs and other forms of underground supply. With the advent of civilisation, the causes of pollution have increased. Formerly water from

all these sources was taken by people with impunity; but now a days suspicion pervades over almost all the samples taken from the various sources.

Rain water theoretically is the purest water because it is the product of vapourisation and contains nothing but H_2O , but during its passage it may be polluted with dirt, bad gases etc. During a heavy shower if the water is collected properly in a clean vessel a short while after the beginning of the rains, it can be used as a drink with impunity. The water is very soft, and as it contains sufficient Carbon dioxide, it is also very palatable to drink. River water at the beginning of its source is very pure but as the river passes through places of habitation, it is contaminated with various impurities and cannot be used for drink safely. Specially now a days it carries more or less the sewage matters of the towns. In ancient times river water was considered very pure and river bath was incorporated into the performances of Hindu religious ceremonies. There is great chance of river water being purified by nature. The current and the surface help much for oxidation of various matters of animal and vegetable origin. The sun light helps the purification. The algae and similar vegetation growing in the water exert the action of purification,

to some extent in the same way as in the artificial filter beds. Except in rainy season sedimentation takes place, which helps also the purification. Vast quantities of water coming on and on dilute the impurities so much that no chance is left for the pathogenic bacteria to reach the human body through the water taken by any particular individual. Last of all the power of nature to kill the pathogenic bacteria, plays a part in the purification. Bacteriolysis takes place and the phenomenon may be explained by the recent scientific observation of Bacteriophagy. The Hindus observed the phenomenon long ago, though not in the term of modern science, and according to injunction water was treated as sacred and laws were laid down not to pollute it. Ablution in the rivers as in the Ganges is being treated as a religious rite specially on some auspicious occasions. Now a days the pollution of the water of a river has made the use of it not so safe. In towns where there are waterworks, the water from a river is generally taken for the supply and it is filtered and chlorinated before it is pushed in the supplying mains. The river water on examination is generally found very soft in nature, and of moderate salinity. The water contains a very small quantity of iron. Bacteriologically the river water contains on an average 3000 total colonies of bacteria in 1 c.c. of water and faecal bacilli is found in .01 c.c. of water. The water pumped out from the river is allowed to settle for a few days in large reservoirs, where it is treated at the same time with Ferro Alum which helps the settling of mud and other suspended matter. The water of the

settling tanks contains about 1000 colonies of bacilli per c.c. and faecal bacilli are found in 1 c.c. and upwards of water. From the settling tanks the water is allowed to flow on the sand filters; after the filtration the water is kept in large underground covered reservoir, where it may be treated with Chlorine and the water then is found to contain only about 100 colonies of bacteria but no faecal bacillus is generally found. It is then fit for drinking and is pumped up in elevated reservoir from which the town is supplied by pipes. This is the process of slow sand filters described very briefly. The water is soft and during its passage it takes sufficient CO_2 and becomes palatable. The water from the street hydrant is the water coming direct from the clear water reservoir and bacteriologically it is the same as that of the reservoir and therefore is of high standard of purity and is safe for drinking. Many a person complain of the Alum used in the settling process and ascribe it to be the cause of the cases of Diarrhoea during the summer and the rainy seasons. Sometimes they do use water from other sources, the purity of which is questionable and the cases of Diarrhoea increase in number. The quantity of Alum used first forms a gelatinous precipitate and settles completely in the bottom of the tanks; by ball valve action the water from the surface of the tank is led to the filter beds.

The water from a tank if kept reserved and free from pollution can be used for drinking purposes, but to be on the safe side it is better to have it boiled before use. Nature plays a very strong hand in the purification of the

water in a tank, otherwise there would be devastation of the people in villages, who have got no other source of water supply except a few tanks in the villages. Sun light, Oxygen, Algae and the mud and to a certain extent the fish in the tank, help the purification of the water.

The purity of water from a well depends upon various factors. The water is hard and of high salinity, often contains much iron which render the water brownish. The water from a shallow well should not be used for drinking purposes. The water from a deep well may be used but often it contains impurities rendering the water unfit for drink. Now a days the tube wells are being sunk in large numbers and the water is used for drinking purposes. As there is less chance of pollution and the water comes from below the impervious layer, the water after analysis is often found to be of good quality and can be used safely for drinking. But the hardness, the saline and the iron contents of the water and the less quantity of CO_2 dissolved in it render the water not so palatable. Moreover during rainy season the condition of the water may be affected and subsoil water may reach the end of the pipe into the strainer down the outside of the tube and may contaminate the source to some extent.

Water is a great solvent, various salts and gases are found in water in solution. It forms the greater part of the body weight. Taken in, it passes out unchanged but during its passage it takes out various salts and waste products from the body. It comes out from the body with sweat, respiration, urine and faeces. Though it is

not a food in the proper sense as it does not produce any energy inside the body yet it is indispensable to maintain the biochemical process of the system. It helps metabolism. Less quantity taken causes indigestion. It is taken in our country to wash down the food but in other countries it is never taken for this purpose. A story about this point told by a friend of mine is interesting. In a feast in Calcutta after the dinner was over my friend was asked about the drink of his choice, Sherry? Champaign? or Beer? But my friend asked for a glass of pure water. The host became astonished, remarking how "simple water" was a sufficient substitute for the other forms of drink. Water if polluted may cause disease in an indirect way; viz. decaying vegetable matters or excess of mineral salts, may pollute water and if taken in, may cause gastrointestinal disturbance etc. An infected water carries the germs of a disease direct to the system and may cause various water borne diseases. They are Typhoid, Cholera, Dysentery etc. Bacilli of Colli group and eggs of intestinal parasites may enter the body through drinking water.

(2) *Aerated water* came into vogue in this country from the latter half of the nineteenth century, about a century after it was invented by a London chemist.

It is nothing but water surcharged with CO_2 gas under high pressure. The gas is generally prepared by the chemical action of crude Sulphuric Acid upon some form of Calcium Carbonate ($\text{H}_2\text{SO}_4 + \text{CaCO}_3 = \text{CaSO}_4 + \text{CO}_2 + \text{H}_2\text{O}$). Simple water charged with Carbon Dioxide is the basis of all forms of aerated water and this simple

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This should be remembered during the feeding of an infant. It is thus seen that freshly drawn raw milk is far superior to boiled milk in which form we take it generally. But the danger of raw milk should be kept in mind. It decomposes very easily; it is a very good medium for the growth of most of the bacteria and it very easily conveys infection with disastrous result; the condition of the animal, the cleanliness of the hands of the person and of the bowl by and in which it is drawn, etc., are so very difficult to manage in a sterile condition that it seems better to have it boiled before use than to take it in fresh state. Various diseases may be conveyed through milk viz., Tuberculosis, Typhoid, Paratyphoid, Diphtheria, Sore throat, Diarrhoea, Dysentery, Cholera, Malta fever, Foot-and-mouth disease etc.

(6) *Tea* is the prepared leaf of tea plant—*Thea Sinensis*. Black tea in which form we generally use it, is prepared from the leaves after they are fermentated and baked. The constituents of tea are Caffeine, Tannin, Thein, albuminous matter, ethereal oil, gum, dextrin etc. The aroma and flavour depend upon the volatile oil it contains. The tea plant sends out young shoots four times a year and tea is collected at those times. The first shoots form the best kind of tea. Again tea is classified according to the variety of leaves collected and assorted. Thus the new leaves on the topmost part of a branch when very small form what is called broken pekoe. When those leaves are a little grown up they form Flowery Pekoe. The leaves still more grown up form Orange Pekoe.

The leaves below these but yet containing least fibre form Pekoe. The leaves still below and a little larger form Sou-chong. The other leaves of the branch form what are called Congon and Bohea, which are not often used. In the preparation of tea in whichever form we take it, water is raised up to the boiling point and is poured upon tea, kept for five minutes, then mixed with milk and sugar and is taken sipped, the quantity of sugar and milk is added according to the taste. Addition of milk makes the tea more palatable and it precipitates the tanning to some extent with other insoluble matter, hence the bottom of a tea cup should not be drunk. To prepare 15 ounces of liquor 4 ounces of tea is required. A tea cup measures about 5 ounces. In the preparation of good tea drink, certain precautions should be taken. The water should be soft and well aerated. Water should be used when just it reaches the boiling point. The pot should be rinsed with boiling water, before making the infusion. The time for the tea to be infused should not be less than two minutes and more than five minutes. Tea should be of good quality and unadulterated. According to the standard of the Bengal Food Adulteration Act, tea must contain between 4 and 8 per cent of total ash, the extract obtained by boiling dry tea (that is tea dried to constant weight at 100°C) with 100 parts by weight of distilled water for an hour must not be less than 30 per cent. Tea is refreshing and removes langour. Water reaching the stomach passes gradually to the intestines where it is absorbed. Cold water should be raised to the body tempera-

ture before it is absorbed. Hot water therefore reaches blood more promptly. Thus it quenches thirst more readily than the cold water and tea being taken hot, allays thirst more quickly. It should be taken in moderation otherwise it may cause derangement of digestive power. It is improper to take tea in empty stomach. In loaded stomach also it should not be taken, as in that case it hinders digestion to some extent. Persons who are habituated to take tea in some particular hour of the day, a craving for it at that time occurs and unless supplied would feel discomfort and generally yawnings take place. When drinking water is not above suspicion tea is a good substitute as the water is boiled before use. The persons who are not accustomed to take tea, often complain of sleeplessness if they take it. This is caused by the caffeine it contains. If taken in excessive quantity, indigestion, cardiac and respiratory distress may occur.

(7) *Coffee* is obtained from the seeds of the *Coffea arabica*. The ripe fruit contains two seeds surrounded by a pulp. These seeds are taken out dried and powdered. It contains Caffeine, an aroma and a flavour. Coffee is roasted before use and the peculiar flavour is due to a volatile oil. The preparation is the same as that of the tea. About 2 ounces of coffee to a pint of hot water would make a good infusion ready to be taken with milk and sugar. It is an exhilarant drink. Taken in excess it causes insomnia and nervous disturbance.

(8) *Cocoa* is prepared from the seeds of *Theobroma Cocoa*. Seeds are separated from the pods, and dried and

roasted, and then ground. The powder contains an alkaloid called Theobromine, a quantity of starch and fat. The fat of cocoa is known as Cocoa-butter which being separated is used in pharmacy for making pessaries etc. The drink is prepared with hot water, milk and sugar as tea is prepared; but cocoa is not soluble in water but remains in suspension. The fat imparts the peculiar odour which is not liked by many in our country. The cocoa has got some nutritive value and for this reason it is preferred sometimes to tea and coffee, but the form of drink in which it is taken contains so little a quantity that practically it contains no food value. In the sense of beverage also its value is inferior to that of tea and coffee owing to the small amount of alkaloid it contains.

(9) *Toddy, Liquor, Wine and other spirituous drinks* are not used in this country for the purpose of drink in the proper sense. Generally they are used for intoxicating purposes and as such I do not wish to deal with them in any detail.

Toddy is prepared by fermentating the saccharine juice obtained generally from palm and date trees and is taken largely by the poorer classes of this country, in the form of a drink but for the purpose of intoxication.

Beer, ale, porter and stout are examples of liquor drinks. Beer is the product of fermentation of malt and hops. Ale is prepared by brewing rice etc., and the so called 'Kanchi' or Pachai or grog of this country falls under this class of liquor. Porter and stout are akin to beer, only in the

preparation, malt is first roasted and caramel is added.

Wine is prepared by fermentating grape juice. Claret contains 8 to 13 per cent of alcohol, a small quantity of acetic acid and volatile ether. Burgundy contains a little more alcohol in proportion than Claret and it is rich in extractive matter. Hocks are pale wines. Port is also rich in extractive matters. Maderia is rich in volatile ethers. Marsala is a little sweet to the taste. Champagne is prepared from black grapes and is sour to the taste. The different names are due to the different places they are prepared, as for example, Champagne is so named because it is prepared in the Champagne district of France.

Spirituous drinks are the products of distillation of various kinds of fermentated sugars. They are of high alcoholic strength. Whisky is prepared from malt and is distilled in pot stills. Whisky contains about 48 to 56 per cent of alcohol. Brandy is prepared from grapes. Rum is prepared from molasses, dark colour is due to caramel. Gin is obtained from rye and malt.

Alcohol contained in these drinks produces intoxication. Strong solution of alcohol causes irritation. Alcohol

is absorbed by the mucous membrane of the stomach. Alcohol in moderate doses is stimulant. Alcohol produces caloric energy inside the body and thus can sustain life. In big doses alcohol paralyses the cells and thus it is a protoplasmic poison. In the act of stimulation it follows the law of dissolution, which means stimulation from lowest to the highest centres followed by depression from the highest to the lowest centres. As regards its power of sustaining life, I would be very clear by repeating the metaphor told to us

while, a student in the Calcutta Medical College by Principal Col. Deare. "A steamer falls short of its water supply on a sea, no help is available unless a port is reached; salt water from the sea is poured inside

the tank. Engine runs all right, takes the steamer to the port to the relief of all; but on examination the parts of the engine are found corroded nastily, with the strong saline solution." To finish up shortly I must say that alcohol in any form is an unnecessary drink to a healthy person. In diseases it is used in the prevention of tissue waste in acute fevers, in toxæmia, in nervous exhaustion, in failing circulation, in persistent high temperature and in bad general condition.

WHAT IS DISEASE?

Dr. Hutchison has revived the old definition of disease which runs as follows:

"We have done that which we ought not to do and there is no health in us"—London Hospital Gazette.

A Simple form of Pranayam

(Breathing Exercise)

By

DR. J. N. GHOSAL, L.M.S.

Basirhat.

Definition.—By Breathing Exercise we mean, open-air exercise of the lungs and the chest wall, by regulated enforced deep inhalation and exhalation. The object is to increase the strength of the chest wall and the vital powers of the body, whereby infections and proneness to cold or wet can be effectively dealt with.

(Unequal development of the body,—as for instance superlative growth of the musculature on a comparatively narrow-chested frame is more commonly met with now a days, on account of an awakening of the physical sense in our youths, resulting in a propping up of Professional Athletes everywhere. On the other hand, one meets everywhere in India Sanyasins, Hatha yogins as well as Rajyogins,—who travel high and low altitudes almost naked and fight with all sorts of weathers with impunity. Their only weapon and strength is well regulated Pranayam practised twice a day,—breathing exercises postulated and made perfect by Seers of the Path, countless ages ago.)

The form of exercise mentioned below by the writer is chiefly intended for the average students and intellectuals who live in congested towns and who cannot afford to indulge in expensive outdoor games or attend Profes-

sors in Gymnasiums. I also venture to recommend this simple form of exercise to our muscular Professors as well, just to perfect their systems and add beauty and more strength to their frames.

Immediate Results.—Deep Inhalation and Exhalation for some minutes is an effective temporary mental stimulant, doing away with mental as well as physical fatigue. All intellectual persons take to it unconsciously whenever fatigued,—by rising straight up, throwing the chest forward, the hands to the back of the head and inhaling deeply several times. Weight-lifter, Plunger, Voice trainer, Professional Gymnasts of repute, etc., resort to it before their performances. Its effect on muscular fatigue is also unique—a few minutes deep breathing restores vitality and fresh and renewed activity.

Permanent Results.—Deep Breathing if practised regularly and scientifically brings on the following permanent changes in the system:—*First* of all, the abdominal breathing is changed into thoracic. The general run of people inhale air without expanding their chests,—simply by protruding their abdomen. The exhalation or throwing out of air is also done by indrawing of the abdominal wall and therefore without any contraction of the chest. All Insurance Doctors know

ing the effects of planetary rays concentrated by lenses upon hypnotic discs, by which his somnambulists were sensibly effected.

A case in point would not be amiss at this juncture. A young officer, as a result of the horrors he had passed through, received a severe shock to his nervous system which had assumed the form of an acute insomnia. The color scheme of the private ward used in this case was carried out in mauves, blues and greens. The patient entered the ward in the morning and spent the whole day there under the influence of the color scheme. That night he had the first unbroken and refreshing sleep since the advent of his nervous derangement, and as often as he repeated this form of treatment his sleep was always normal.

Colors have an influence over many processes of the body metabolism, muscular activity and tapping activity are the most prominently noted. It is a well-known fact that flowers grown under blue glass increase in size and vitality. Fere, a famous French physiologist, studying the effect of colored light upon muscular activity found that in ordinary light this muscular activity to be 23 units. It increased to 24 units for blue; to 28 for green; to 30 for yellow; to 35 for orange; and to 42 units for red.

Another investigator, Pressey, found that after submitting a person to a given color for five minutes, he could detect differences in the effects of the various colors upon tapping activity, memory, mental work, etc. He found subjects with pronounced intolerance for a certain color. The mental processes of one person were increased 20% under the influence of certain color. The memory work of others showed a marked improvement under certain colored light.

Tapping activity was found to be more uniform with green light, slower with blue light, and decidedly quicker under red light. Arithmetical activity, for instance, was strongly improved under red light as is to be expected.

Many sense impressions are daily being made upon the human body, and the greatest variety and most profound arrive through the avenue of sight. Of the multitudes of visual impressions the most pronounced are those conveyed by colors. Colors, even with the individual being unaware of the fact, play a very important role in either building or destroying the physical and mental well-being of the individual. In quite a few instances colors may act as medicines, and there is a branch of the healing art called chromopathy, the study of the influences of colors upon the human body in health and disease.

HEALTH IS WEALTH.

BY

SIR ARBUTHNOT LANE, BART, C.B.

THE WAY TO HEALTH.

Why be ill?

To get the best out of life, we must have good health. One thing which no millionaire can buy is health. But the habit of health is largely a matter of the habit of our daily lives. If we have inherited healthy bodies, their maintenance in health depends on how we use them or abuse them. Remember that *over-use* is a serious form of abuse.

Good health demands: Proper food and drink; all the fresh air and sunlight possible;

sufficient exercise; suitable clothing; and sound sleep. Given all these, most ordinary diseases would disappear, and we would all attain the dignity of A. 1.

Health is no mystery. Know the working of your body machine and study its needs as you would that of any other machine you are working on. The reward—health and happiness—makes it truly worth while.—*On Guard* (a monthly booklet published by the National "Safety First" Association (Inc.), 119, Victoria street, S. W. 1).—*First Aid*.

"THE GREAT DISEASE"

A DRAMA

BY

DR. G. RAGHUNATHA RAO, D.T.M.

B. & O. Govt. Research Worker in Leprosy at Purulia.

(Continued from p. 198, Vol. IX, No. 10.)

Ramu: "Doctor, Pardon me, just a little interruption."

Dr. Ramnath: "Yes, what do you want to know, my dear young man?"

Ramu: "I have heard people saying that cold rice is very good for health; and our forefathers were very strong, because they used to take cold rice, the first thing in the morning."

Dr. Ramnath: "Yes, that is a very prevalent notion, which merits a detailed consideration. I find that even well-educated people of the southern districts have that idea deeply rooted in their minds. People who make such statements seem to have viewed only one side of the question. They never know or pretend not to know, that it



Boys of Maharashtriya Mandal, Poona Performing Physical exercise.

is not the cold rice that gave our forefathers their enviable strength. Rather it was the quantity and quality of milk and milk products consumed by them and the amount of physical exercise which they had, that gave them their enviable constitution. You must have heard from your grandmothers, how in those days, people lived more in villages than in the dusty and smoke-ridden atmosphere of the towns and how each

household had at least a pair of milch cows or buffaloes and every family had some plot of land and a small house of its own. Also you might have heard that cold rice mixed with plenty of curd formed the principal "menu" for their breakfast; soon after partaking of which all the male members used to go to their respective lands, gardens or groves and work there until midday. It is clear from this that they had

plenty of hard physical exercise, in the open air, and they had a real appetite when they sat for their midday meal—a thing which is becoming rarer now-a-days. How many of you eat with good appetite at 9 A.M. and how much time you take to masticate your food? You might also have heard from the same grand old dames, how every male member used to wash his own clothes and drinking utensils and how scrupulously clean they used to be.

In those days, females, never used to spend their time in reading voluminous

but unenlightening novels and cheap trashes. On the other hand, their first duty was to cleanly sweep the house, then clean the cooking utensils etc. and then to attend to the cleanliness of the cowshed. The task of removing the accumulated cowdung and keeping the cowshed clean and that of bathing and milking the cows or buffaloes, involved considerable hard exercise. Thereafter, they had to take their baths and cook the midday meal. As a reward for their labours, they had plenty of pure unadulterated milk, curd and ghee



Girls of Prof. Karve's College, Poona, undergoing Physical training.

in their food, which built up sound bones and teeth in them. Their hard morning exercise, toned up their muscles and stimulated their circulation; and they needed no coffee to stimulate them. Child-birth, a very ordinary physiological event was nothing to them. On the other hand, now look at our modern girls and women—child-bearing has become an ordeal to them. They need frequent doses of coffee or tea to keep them “in spirits.” Thanks to modern science, they are getting themselves accustomed to have their wants answered even in their domestic spheres,

by simply turning a handle or pressing a button. To wash one's own clothes or to walk in the open air, is regarded as derogatory to one's self respect, not to speak of attending to the cleanliness of the cowshed. Then again in the matter of food, cooking wholesome food, has become a drudgery to many of our modern women folk, who rather prefer to get their cooked food, from the nearest hotel.”

“Oh! What a fall we have had!!! It is really a fall!! So, Gentlemen, now you know the reason why our forefathers were strong. It is not because

of their eating cold rice but because of their taking in plenty of milk and its products, hard physical exercise in the open air, clean ways of living and above all, their purity of thought, word and deed. They began their life with a strict bachelorhood (Brahmacharya) which gave them enough of stamina. Now-a-days every boy of the tender ages in his teens, possesses a precocious sexual knowledge, because of the want of privacy on the part of his parents, a condition incidental to living in overcrowded houses, in towns.”

Ramu: “Thank you, Doctor, I feel I am really enlightened.”

Dr. Ramnath: (Addressing the audience) “I beg your pardon, Gentlemen, in my attempts to answer the questions put to me by this young man, I have probably digressed far away from the theme of my lecture today”. (Continuing) “To be brief, nutritious and wholesome food, adequate in quantity and eaten only when hungry are the main essentials. And hard physical exercise is a *sine quanon*, cleanliness of the skin, and clothing is a third essential.

In this connection let me warn you, not to neglect your time-honoured once a week oil bath. The advantages from the health point of view, of this time honoured custom, are too many to mention, and if I were to dilate upon them now, I am afraid, some of you may get very impatient to go home. I therefore refrain from detailing them, but I would request you to remember that the *Sikai* powder (சிகை பودர்) *Acacia Rugata* or *Acacia concinna*, or infusion of the same which you use, to remove the oil from your body, exerts antiseptic effects and it removes dandruff and promotes the growth of hair. So, you can use it every day in your baths, as an excellent

dirt remover, instead of costly soaps. I believe that because the people of Bengal never use this *Sikai* (powder or infusion) when they take their oil baths, and because of the oil remaining in their hairs, after bathing, undergoing decomposition, they are very prone to suffer from dandruff and premature baldness. The extensive use of *Sikai* in their oil-baths, has given the South Indian women, their long smooth tresses of hairs, the envy of their sisters in other parts of India!!!”

“Now I come to the “Medicinal” treatment of the so-called “Great Disease.” This consists of injections, beneath the skin, or between the muscles, of a pale straw colored oil, obtained by cold expression, from ripe fresh seeds of *hydnocarpus wightiana*, a tree which grows plentifully on the Western Ghats—specially in Malabar. In “Malayalam,” the seeds are called by the name of “Marotti or Maravetti” (മാരോട്ടി) and in Tamil “Niradimuthu” (நிரடிமுத்து). I am sure most of you must have seen these seeds. They are a household remedy for itch or scabies in South India. The oil when injected gradually becomes decomposed in the body. The several fatty acids contained in the oil, kill the germs of leprosy or make the body unsuitable for them to thrive in. Injections of the oil together with exercise and clean nutritious food, cure the disease. Mere injections alone will not do. It is not enough to wound your enemy, but you must also shield yourself from his blows. Otherwise, long before you hurt your enemy, you are yourself hurt by him. So it is necessary not only to attempt to either kill or starve the germs, but also to protect the natural powers of the body, which alone, can ultimately cure the disease. No drug or medicine

G. R. Bruce, the medical officer of health for Hastings, on the subject of sun-bathing, states that rightly used sun-bathing will help to improve the general tone of the body especially of the muscular system; the appetite will be sharpened and, generally, that feeling of well-being which is the desideratum of all holiday-makers, will be induced. An injudicious over-exposure to the sun in the early days of the holiday may lead to blisters, rawness of the skin, headache, irritability, loss of appetite and general disappointment. "The right way to indulge in sunbathing," states Dr. Bruce, "is to expose small parts of the body for short periods, say five minutes on the first day, then increasing the amount of surface and the length of exposure each day until at the end of your holiday of two or three weeks a considerable portion of the body can be exposed for a reasonable time to the rays of the sun. Avoid the hottest parts of the day, and remember that alternative exposure to sun and shade gives better results. In the early days of your holiday take care that the head is not exposed over much to the sun."—*Medical Officer*.

Sunlight Makes Red Blood.—An account of experiments and observations made at Tucson, Arizona, which show that the luminous rays of the sunlight have a remarkably beneficial effect upon the blood is given in *Science News Letter*. It increases the avidity of the cells for food and so encourages nutrition. Plants do not flourish in the dark and produce no chlorophyll. This accounts for the striking pallor of miners and others who work in the dark. In Leningrad, Russia, the whole population is pale in the spring after the long, almost sunless winter.

In cloudy places like the Lake Region, every home should, if possible, own and, in the winter, make daily use of an artificial light apparatus.—*Good Health*.

"An Apple a Day"—So long as the slogan "An apple a day keeps the doctor away" remains current, physicians will be compelled to devote at least some consideration to the fruit that attains an annual crop exceeding 100,000,000 barrels in North America. A recent writer (Morris Fishbein) who has been shattering some of the familiar health superstitions, remarked that the saying is, like a great many other health hints, based on just enough truth to make the contention easy to believe but without any actual scientific foundation. Now the modern nutrition experts who are venturing to destroy some of our cherished prejudices and illusions about food belittle content of calories in our traditional apple sauce. The apple has qualities that assist the movement of the intestine; but how shall the fruit maintain its popularity in an era when a colitis-ridden population has begun a period of warfare against undue "roughage"? Fortunately they cannot deny to the apple the virtues that are attached to its more recently discovered content of vitamins. Apples have anti-scorbutic potency, though they cannot vie with some of the other edible fruits as sources of vitamin C. Apple juice must be used in liberal amounts to be effective. In the good old days we were wont to munch our apples without paying any special attention to the skin of the fruit. The advent of bacteriology brought warnings of the dangers lurking in germs and accordingly the apple was subjected to peeling before it was eaten. What a pity! For the scientists assert that

apple peelings are antiscorbutic; and the latest reports from England not only verify this but point out that the concentration of vitamin C in the tissue of the apple increases as the skin is approached from the core and is more than six times as great in the peel as in the flesh near the core. No one has ever championed the apple core; but mere inspection of the activities of the army of apple sellers at our street corners during the past months has shown that the eating of the widely purveyed fruit seems to have exhibited an all-or-none law. Who can say what the year's intake of apple skins has accomplished in averting national scurvy?—(*From the Journal of the A. M. A. Vol. 96, No. 26 June 27, 1931 page 2201.*) *Abstracts of Current Public Health Literature*.

"Dry Ice"—Cure for Leprosy.—Leprosy, regarded for centuries as an incurable disease, has in the past few years been treated successfully with chaulmoogra oil, obtained from an Indian tree. This method, however, has two disadvantages—the treatment takes several months and the oil is so nauseating that it cannot be administered in very large doses.

Dr. A. Paldrok, a skin specialist at the University of Dorpat, in Estonia, recently announced that he had developed a new leprosy cure which will do away with the shortcomings of the chaulmoogra oil treatment. By his method, areas of the infected skin are frozen with solid carbon dioxide, or "dry ice". Compounds of gold also are used in the treatment.

The intensely cold material is said to kill the tissues for some distance below the diseased surface. The dead tissue cells discharge chemical substances into

the blood which stimulate the body to repel scattered leprosy germs.
—(*Popular Science*)—*Scientific Indian*.

Golf as a Medicine.—According to American actuaries, it does not follow that because persons take exercise they are therefore healthier than those who lead a more or less sedentary life. It is said that the intellectual lives longer than the athlete and that the man who took honours at the university is likely to live longer than the one who did not. It is true that frequently those who take little or no exercise outlive those who make something of a fetish of it. Sir Farquhar Buzzard, regius professor of medicine at Oxford University, speaking at the meeting of the British Medical Association, held a short time ago in Winnipeg, took a tilt at golf as a medicine, saying that the advice "to take up golf is becoming a tabloid preparation too easily prescribed and too easily swallowed." There is no doubt that exercise taken in excess may be distinctly harmful and consequently the athlete sometimes, perhaps, frequently by too much training has impaired his chances of a green old age, while the studious man who has exercised his mental rather than his physical faculties, provided he possesses a sound constitution, may easily pass the three score years and ten. But, after all, and especially with golf, which to the vigorous young or middle-aged man is not an arduous mode of exercise, the personal equation counts for much. The game is not suited to every temperament, but at the same time, it provides diversion combined with exercise which may be taken with discretion, which is not the case with other games, except bowls and croquet. Tennis or

can ever kill *all* the germs present in the body, only *some* of them are killed, but the rest are destroyed by the natural resistance of the body, which is able to function, only after those germs that were stampeding them, have been killed by the injections. So, our aim in treatment must be always to increase the natural vitality.

Next comes the use of certain counter-irritants. Generally, we paint an acid, called trichloroacetic acid, in suitable dilutions, on the patches and eruptions. This helps their resolution.

If any other disease is present, which lowers the natural resistance, that receives our attention first. Such, in brief, are the methods of treatment, placed at our disposal, by modern medical science."

Ramaswamy: "Doctor!, with this kind of treatment, can you cure all the different kinds, I mean, stages of the great disease?"

Dr. Ramnath: "The answer to this question, obviously depends upon the definition of the word 'cure.' If, by 'cure' is meant, the loss of all the active signs of the disease and freedom from any recurrence of the symptoms, so long as the individual maintains a good general health, then almost all the early cases and a large proportion of the early skin type or slightly infectious type of cases, are curable. But later on, as the disease advances, the number of germs, increases to such an extent and the damage to the essential nerves and small muscles becomes so unavoidable, that treatment must necessarily be very very prolonged; say for 2 or 3 years. But if such persistent and prolonged treatment is carried out, the highly infectious cases become non-infectious, and although some kind of permanent

damage to some structure or other, resulting in some sort of deformity or deficiency of members, cannot be avoided, still, the treatment is worth undergoing, as it enables the advanced cases, to become less dangerous to their relatives and friends and gives them a chance to live, as otherwise, they may fall victims to some other inter-current disease—chiefly—consumption,—which may put a premature end to their lives. At least in the interests of their children and such other closely living relatives and friends these highly advanced and infectious cases should undergo treatment."

One from the audience "Doctor!, Just one doubt."

Dr. Ramanath "Yes, what is it?"

Questioner "what about the treatment of those deformed beggar lepers? can they not be treated?"

Dr. Ramanath, "Yes, my friend has asked a very intelligent question" (continuing and addressing the audience):—

"I do not mean to say that these deformed beggar lepers cannot be treated. But what is the use of treating them? As I told you before, they have not got any active disease to be treated, and their deformities are only the ravages or relics left behind by the germs. No treatment can restore the destroyed limbs and replace the lost fingers or toes: or straighten the permanently crooked fingers and toes. But, such "burnt out" cases, as they are called, require only good food, clean surroundings and medical attention for any other disease that may attack them. Given all these, it is wonderful, how long such deformed "burnt outs" live and what a useful service they render to themselves and

to their fellow sufferers. To adequately realise all this, one must visit an asylum managed by the great "Mission to lepers." In their asylums, they care for these so-called "burnt outs", who, though regarded as worth for nothing by the public, strive their utmost to return in service, what they receive in money and care from the Mission,

which so kindly gives them a chance to live."

Looking at his watch and exclaiming—"It is 1-30 P.M.,!!!. I am sorry I have kept you all, so late. Thank you for the patient hearing you have all given me to-day also."

Exit all the visitors, Dr. Ramanath Ramu and Gopal.

(To be continued).

BOILS AND ABSCESSSES

CAPT. SHYAM LAL, B.A. M.B.,

Civil Surgeon, Ballia.

You find that during the rainy season in India a large number of children suffer from boils and abscesses.

In the hospital practice, the number of cases coming to the hospital for the trouble both outdoor and indoor increases four or five times more than in other parts of the year, out of which the number of children suffering from the trouble is three times the number of the adults.

The cause is simple enough; during the rainy season, a good number of all kinds of insects are brought into existence.

These bite or sting, and the site of the bite becomes the site of infection, and the boils and abscesses are the result.

In the case of children, the skin, being tender is more susceptible to bites and its effects.

Children sometimes badly suffer on account of the trouble and become the chief cause of worry and suffering to the parents especially at night.

Not infrequently the infection develops in pyaemic abscesses and deaths.

Generally the children are bitten at night by insects during sleep, as using mosquito curtains at night for all the members of the family is within the pecuniary means of only a very few.

A simple prophylaxis of the trouble lies in rubbing the bodies of the children with some oil before getting them into bed; mustard oil is the best.

Mustard oil should be boiled first strained and then kept in a stoppered bottle or phial.

Every night before going to bed, the children should be gently rubbed with the oil all over the body, chiefly the exposed parts.

LIVING AS WE DO

Living as we do, the wonder is that we are as well as we are; it certainly indicates a marvellous adaptability of the human body, an adaptability, however, which cannot be presumed upon indefinitely.

If you try to live in the least, scientifically, you are called a crank. If you wantonly defy all the laws of right living you are called a good fellow—a man of the world.

There is no doubt that most people eat too much: it is the sin of the age, and the direct cause of much ill-health and suffering.

You know what happens if you put too much oil or oil of the wrong density into any engine; the engine clogs, and the oil pipes get stopped up and the mechanism in general suffers and wears out. The same with the human machine. It is pretty general to find obesity creeping upon middle aged people, a thickening of the tissues and joints, a gradual heaviness that is not desirable or necessary. The middle aged man who eats scientifically and exercises regularly does not accumulate tissues or fat and to this extent he keeps young.

The improper elimination of waste from the body is the great cause of ill-health, for this indicates the retention of poisons that should be got rid of, and retained poisons make unhealthy body cells.

Foods devitalised either in manufacture or in preparation are not fit for human consumption. They are on the market for the profit of their producers—not for the good of the consumer.

The chef generally knows nothing about the chemistry of food, and is expert only as a palate tickler. That is what he is paid for.

So many doctors of the old school still think of vegetarian diet in terms of slow starvation, whereas a diet of fruit and vegetables, raw when practicable, dairy produce and wholemeal bread should be enough for anybody.



Posture in Evacuation. Showing natural posture for efficiently emptying the lower bowels (Indian method is the best.)

Most of the celebrities in religion, art, science, literature etc. and the vast majority of the Western world it is admitted, are haphazard in their dietetic habits. From various admissions made by prominent men, it is observed that while some have smoked and taken alcohol regularly, and others have slept but a few hours and have no recreations, the advantage is with those who have practised simplicity and frugality. It is interesting to note that a large number of prominent people are non-smokers. In characteristic style Bernard Shaw describes his diet as "Fleshless, fishless, and fowlless". His hours of work are thirtysix a day and when asked to what he attributes his health he says. "I don't attribute it."

hman, the musician, states that he no diet.

Dr. Rendall (Head Master of Winchester) and the Rev. Hugh B. Chapman (chaplain of the Savoy Chapel) state their diet to be mainly vegetarian. Jannet Swaffer, the Journal and Dramatic critic says "As far as I know I haven't any health! I am always tired and never well. The only food I take during the day is two lamb cutlets, mashed potatoes and coffee for lunch, several cups of tea at six; and

brown bread and cheese sandwiches. crystallized fruits of almonds and raisins in bed.

Mostly the centenarians have lived fairly normal lives. They have been simple and regular in their habits, mainly non-smokers, abstainers and hard workers.

Concerning sport it is interesting to note that Sir Oliver Lodge says he has "None connected with guns or fishing rods" and the author states "None connected with billiards or golf."

THIS MEAT QUESTION TEN OBJECTIONS TO THE FLESH-FOODS

BY
DR. F. C. SHONE.

Firstly, flesh-foods are expensive. This is a matter which must be considered in these days of financial depression. The thrifty housewife will purchase those foods which will give the best value for money. Flesh-foods is not only expensive to buy but it is a poor quality of food-stuff and it is lacking in many of the essentials of a complete food.

NUMBER TWO

Flesh-food is an unhealthy article of diet because of the prevalence of disease among the animals which come to the butcher. A recent report of the Medical Officer of Health of one of the Boroughs of London showed an unusually high percentage of carcasses rejected as unfit for human consumption. When we consider the difficulties involved in meat inspection and the inadequacy of the regulations at present in force we must be led to conclude

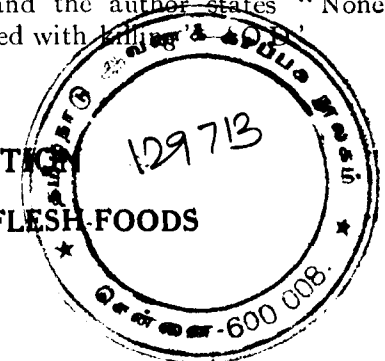
that a large amount of diseased meat is still being consumed.

NUMBER THREE

In addition to the diseases that may be caused through eating diseased meat there are poisonous products in all flesh-foods that are harmful to the human system. Investigations in recent years have shown the importance of keeping the blood and tissue fluids alkaline. Acids act as poisons, and for perfect health the blood must keep a large alkaline reserve to neutralize the acids. Now flesh-foods normally contain an abundance of these poisonous acids, and they are present in still greater proportions if the animals are subjected to physical or emotional strain before slaughter.

NUMBER FOUR

Meat is mostly composed of protein. While protein is a very necessary part of the human dietary yet careful ex-



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periments have proved that excess of protein is very harmful particularly to the kidneys and blood-vessels. It is well known that in countries where meat is largely used diseases of these organs are very prevalent.

NUMBER FIVE

Flesh-food is very deficient in the substances known as vitamins. This is not surprising, for it has been proved that animals cannot produce vitamins themselves, but must procure them from the vegetable kingdom. These vitamins are necessary for growth, for the power to resist infection, and for the nutriment of the nervous system. A flesh diet, therefore, would be wholly inadequate for these necessary supplies.

NUMBER SIX

Again, a flesh diet is deficient in the very necessary minerals such as iron, phosphorous, and lime. These minerals and others are of vital importance to nearly every organ of the body, so much so to the nervous system that the other organs will be deprived of them in order to maintain a sufficient supply for the brain and nerve cells. The vegetable kingdom provides a rich supply of all these minerals in which flesh-food is so lacking.

NUMBER SEVEN

From the foregoing not only will it be seen that a flesh diet is deficient in many of the important properties of a perfect food, but that the vegetable kingdom gives an abundant supply of these very things. With instinctive wisdom the animal goes to the vegetable kingdom for an adequate supply for its own requirements, whereas the flesh-

eater obtains his second-hand after it has passed through the animals. In this way he loses much of the valuable nutritive elements while he receives the additional poisons.

NUMBER EIGHT

Flesh-eating hastens old age. Within the human body meat undergoes changes which produce poisonous substances. These substances are supposed by eminent scientists to be the cause of the changes associated with old age, such as whitening of the hair, wrinkling of the skin, hardening of the arteries, etc. Certain it is that the circulation of these poisons in the blood affect the vital organs, handicapping them in their functions and causing them to become prematurely worn out.

NUMBER NINE

Then we must not forget the suffering involved in the provision of a flesh diet. There are many persons who manifest the greatest affection for animals such as cats and dogs and resent with indignation any unkindness to them, yet these same persons will thoughtlessly cause the gentle lamb to be mercilessly destroyed and will feast with relish on its carcass.

NUMBER TEN

Lastly, there is the moral effect. When we consider that the quality of human character is dependent upon the nervous system, and that the nervous system in turn is built up from the food supply circulated through it by the blood, it follows readily that he who would develop a high and noble character cannot leave the question of food to the dictates of appetite or custom.—*Good Health.*

"WHAT SHALL I DRINK"?

BY

HARRY BENJAMIN

Member: British Association of Naturopaths.

Almost as important as the question, "What shall I eat?" is the question, "What shall I drink?" when it comes to the establishment of a proper form of dietary. The present article sets out to deal with the beverage side of the dietetic problem, and to provide readers of *HEALTH FOR ALL* with an answer to the question of what to drink, and when and why.

The most popular drink in this country at the present time is undoubtedly tea. The chink of the teacup is heard everywhere throughout the land! Apart from coffee, cocoa, and other drinks, the quantity of tea that is consumed daily in England, alone, must be veritably enormous; and this colossal daily consumption seems to be on the increase, if anything, judging by what goes on all around us, in the home, the restaurant, and the popular teashop.

EXCESSIVE TEA-DRINKING.

Yet, everyone surely knows that excessive tea-drinking is harmful? Why, even those of the medical profession tell us that too much tea is bad for the nerves (a surprising admission for these "guardians of our health" to make, by the way, in these days of dietetic promiscuity); but not only is tea bad for the nerves, it is *bad for the digestion*, also. The continual drinking of strong tea has a most deleterious effect upon the digestive processes, in time, as many devotees of the "Tea Habit" have found to their cost!

Tea contains two drugs or poisons—theine and tannin—*alkaloids* as they are

termed. And these have an effect upon the system similar in kind to that of alcohol. They stimulate the system at first, only to depress later, and the natural processes of the body are thus thrown out of proper co-ordination. The digestion of starches in particular is delayed by excessive tea-drinking, whilst the elimination of bodily impurities and food poisons from the system—via the blood stream and kidneys—is retarded.

STIMULATION.

Tea retards and prevents elimination. Let the reader fully grasp this fact and its physiological implication, for it explains why tea drinking in general, and the "early morning cup of tea" in particular, is so popular. During the night the body has been active removing the waste materials from the cells, and bringing them into circulation in the blood stream, preparatory to their being finally ejected from the system via the kidneys. Consequently, when the average individual who lives in the usual way, on the usual kind of foods, awakes in the morning, he feels drowsy, tired, and headachy, as a result of this nightly swamping of his blood stream by the toxins generated in his system through his unwise feeding habits. He has his early morning cup or two of tea, and immediately feels refreshed!

Why? Simply because the waste products in circulation in his blood stream have for the time being been removed. They have been thrown back

into the tissues by the stimulating action of the alkaloids—the theine and tannin—in the tea. Thus, through the temporary stimulating action of these drugs, the blood stream has been cleared.

Let it be noted, however, that this transitory, for it is only transitory, feeling of refreshment, is produced at the cost of the future health of the individual, and so, too, with the “refreshing” effect produced by the tea drunk at other times during the day. Instead of the system being allowed to rid itself of the impurities with which it is encumbered, as Nature intends, they are thrust back into the tissues again. Nature’s work having been thus interfered with, the result is that toxic matter steadily *accumulates* in the system, and any existing tendency to colds, catarrh, coughs, and the like, is intensified; diseases of vital organs are rendered worse, and rheumatism and kindred ailments, if not already present, are made imminent possibilities.

COFFEE AND COCOA.

The effects of coffee upon the system are very similar in kind to those of tea, only in this case the action of the heart is affected, and the kidneys are made to suffer more. It must be remembered that both tea and coffee are *diuretics*, thus entailing additional strain upon the kidneys, those already very much overworked organs of elimination in these days of criminally excessive starch and protein consumption. Tea and coffee also affect the kidneys through the action of the alkaloids they contain. (Theine and tanin in case of tea; caffein in the case of coffee.) The presence of these alkaloids in the kidneys is a continual source of irritation to these delicate and vital

members of our internal economy. If one’s kidneys are not so strong as they might be, the less tea—and especially coffee—one drinks, the better will it be for that person’s health, quite apart from all other considerations.

The action of cocoa upon the system is not nearly so stimulating as that of either tea or coffee, and its after-effects are proportionately less harmful; but precisely because of this lack of stimulating power, the consumption of cocoa is negligible compared with that of its more “powerful” and, therefore, more deadly, rivals.

ALCOHOL.

One hears a great deal of talk about the “horrors” of the drink traffic, and of the degrading effects upon the system of alcohol. But how many of the ardent advocates of prohibition, in this country, would be prepared to give up their cherished cups of tea or coffee? Yet in principle there is no difference. Alcoholic beverages, tea, and coffee, are *all* stimulants, only in the case of the former the effect is much greater, and the results much more obvious; that is all!

Enough has been said to show the bad effects of excessive drinking of tea and coffee upon the system; but we have not mentioned the white sugar with which they are invariably sweetened, and which only serves to make matters worse. For white sugar, quite apart from the fact that it is demineralised, makes the digestion of a mixed starchy and protein meal even more difficult than it otherwise would be, thus creating indigestion and fermentation. Therefore, taking things all in all, the British Nation (to say nothing of the French, German, American, and other Nations), is faced with a

pretty problem, if better health is desired amongst its citizens.

CHILDREN AND TEA.

A cup or two of weak China tea, once a day, without sugar, will do no harm to anyone; but the excessive tea-drinking indulged in, in this country, especially amongst the poorer and middle classes—*must* lead to trouble, both nervous and digestive, in the long run. The administartion of tea to children in the excessive quantities now in vogue, in addition to the popular methods of child feeding, is doing more to sap the vitality of the future generation than is generally realised.

Some people think that even if tea and coffee-drinking with meals is bad, the drinking of water is quite all right. But the drinking of quantities of water with meals is far from being a good habit, and is much to be deprecated. If one drinks water or any other liquid with a meal, the result is that the digestive processes are interfered with because of the dilution of the gastric juices which takes place. Moreover, beyond having this harmful effect, the drinking of water, or any other liquid with meals encourages the swallowing of food without proper mastication, and is therefore a further source of possible digestive disturbance. The best time to drink water is about half-an-hour before a meal, or about two hours afterwards.

THE BEST RULES TO OBEY.

The finest drinks are those made from *fresh fruit juices*, and the juice of one or two oranges first thing in the morning, or the juice of half a lemon in a glass of hot water at night, will be found to have a most beneficial effect upon the kidneys, and the eliminative functions of the body generally.

The following rules with regard to drinking may now be formulated.—

- (1) Never drink with meals. (In this connection it must always be remembered that Milk is *not* a drink, but a food, and should always be regarded as such.)
- (2) Cut down tea-drinking to a minimum, and cut out the drinking of strong coffee altogether.
- (3) Have tea in the afternoon only—between the mid-day and evening meals—without food preferably and always without sugar. (It should be China tea, and **VERY WEAK**. Strong tea must be taboo.)
- (4) Let your early morning drink be orange juice, and your “night-cap” be lemon water.
- (5) Only drink water *between* meals, and then only in sufficient quantities to quench thirst. Never drink more than you actually feel you need at the moment. The excessive drinking of water in the belief that it is “good” for one, is a most unwise and mistaken procedure.

THIS “FOOD-MUDDLED” UNIVERSE.

It needs but little emphasis to point out that the prevailing custom of drinking with meals, and of indulging in cups of tea at all hours of the day (not to mention coffee), is helping slowly but surely to complete that physical bankruptcy which is facing this, as well as every other civilised countries in the world, as a result of the foolish habits in vogue.

It is hoped that the reader will use the few simple rules here put forward to guide him in his selection of suitable beverages in this “food-muddled”

baseball is too strenuous exercise by far, for the ordinary type of middle-aged individual. Walking is monotonous exercise, while riding in a motor car calls for no physical exertion, but is often too great a nervous strain in these days. It may be that exercise does not supply the health-giving properties which it is generally said to give, but may serve as an excuse for intellectual ignorance and to most persons is preferable to mental exertion. However, anyone who works hard indoors and whose business is of a worrying nature and tends to brain fag, finds relief and benefit to health in congenial exercise, which distracts his attention from the cares of his daily work. Again it may be emphasized that the personal equation must be taken into account.—*American Medicine.*

A Cat Story.—"I have a little cat story for you ;

"About two months ago, a scrawny black alley cat drifted into our house.

It was hungry, of course, so we fed it; and after that we could not drive it from the house. It had about as mean a disposition as it could possibly have—would scratch and bite if any body looked at it, and was a regular fighter. My wife, whose arms were all scratched up, vowed that she would ask the Animal Rescue League to come and dispose of the cat. We did not dare to have it around the house, for fear it would scratch some child.

"One day I told my wife to give it some thyroid, which she did. We noticed a change the very next day, and we had given it only three tablets—two on the first day and one on the second. Then we stopped the medicine altogether for a few days. The cat did not die ; on the contrary, it kept on improving. To-night, when I went into the sitting room, there lay the cat on my wife's lap sound asleep and seemingly very contented. This docile pussy was once veritable wild-Cat!"—*Medical Herald & Physical Therapist.*

BOOK-REVIEWS.

=Right Breathing.—Published by J. C. Basak, 363, Upper Chitpore Road, Calcutta. Price. 7 as.

This booklet gives the essentials of right breathing which forms the basis of long-living. Useful information is given therein as to how air is purified,

the volume of air necessary for breathing, how breathing exercises have to be performed, the posture of the body during the several stages and others too numerous to mention. The booklet certainly deserves to be read by everyone who wishes to practise Pranayama or breathing exercises.

Chart of Physical and Medical Examination.—Prepared and published by K. N. Jejurikar, Secretary Medical Department, Maharashtra Mandal, Poona :—

Medical Inspection of Schools is being very perfunctorily performed

now-a-days, so much so no benefit really accrues to the student who undergoes the ordeal and more than that pays for it. This chart will serve as a guide to the Medical Inspectors and covers a wide range. Its use in schools is strongly recommended, if medical inspection is to be a success.

THE ORIGINAL AND STANDARD EMULSION OF PETROLEUM

Bronchitis, Sub-Acute and Chronic.

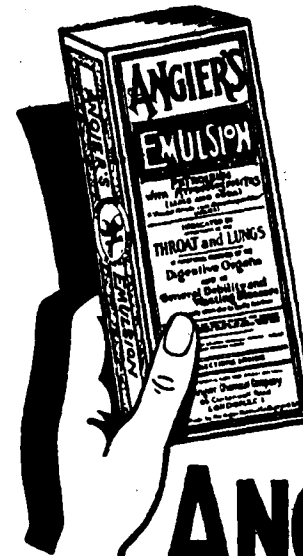
There is a vast amount of evidence of the most positive character proving the efficacy of Angier's Emulsion in sub-acute and chronic bronchitis. It not only relieves the cough, facilitates expectoration and allays inflammation, but it likewise improves nutrition and effectually overcomes the constitutional debility so frequently associated with these cases. Bronchial patients are nearly always pleased with Angier's Emulsion, and often comment upon its soothing "comforting" effects.

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The administration of Angier's Emulsion during and after Pneumonia and Pleurisy is strongly recommended by the best authorities for relieving the cough, pulmonary distress, and difficult expectoration. After the attack, when the patient's nutrition and vitality are at the lowest ebb, Angier's Emulsion is specially indicated because of its reinforcing influence upon the normal processes of digestion, assimilation and nutrition.

In Gastro-Intestinal Disorders

of a catarrhal, ulcerative, or tubercular nature, Angier's Emulsion is particularly useful. The minutely divided globules of petroleum reach the intestines unchanged, and mingle freely with intestinal contents. Fermentation is inhibited, irritation and inflammation of the intestinal mucosa rapidly reduced, and elimination of toxic material greatly facilitated.



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how difficult it is to obtain even $1\frac{1}{2}$ inches chest-expansion among the average Insurers. The *second* permanent effect is the change in the shape of the chest and the manner of breathing. A narrow, ill-expanding, ill-formed chest is transformed into a beautiful athletic stature. The *third* result is the tonic and stimulating effect of the exercise on the entire system, whereby mouth-breathing, habits of unnecessary hawking and coughing and spitting, etc., are permanently checked. And *lastly*, with a greater lung capacity, the strength reserve and resisting power are definitely increased, the body-weight is raised to the standard unit, and proneness to infections and victims of every change in weather are done away with for ever.

The Methods.—The simple breathing exercise taught me by a Sanyasin in 1902 consists, in drawing in of fresh air with the mouth in the kissing posture, slowly inflating the chest to its fullest, and then blowing out the air through the nostrils slowly but completely, by strongly and rapidly contracting the abdominal wall backwards, and upwards, thus forcing out even the residual air out of the lungs.

(Standing straight before an open window whence fresh air is blowing in the early morning and evening,—(a) draw in air slowly, consciously expanding the chest wall wider and wider, till the chin and the breast come almost in one line,—first stage; (b) then slowly allow the chest wall to fall down, keeping the abdominal wall unmoved, and exhaling air out of the lungs,—second stage. (c) lastly, press the abdominal wall

towards the spine, whereby the diaphragm, the partition wall between the chest and the belly,—is raised up and the lungs are squeezed thoroughly, this is the third stage. Then begin again. During all the 3 stages, the body should be kept straight, and unusual effort must be avoided.)

Begin with 3 or 4 such deep breaths every morning and evening and gradually and without the least fatigue increase the number and depth of the breathing, but never over-do or over-exert yourself. I practised this exercise without a single break for more than one full year and felt a tremendous reserve strength in me. For years after, my normal respiration rate remained 12 a minute during rest and pulse rate 62. I could easily complete one course of 15 respirations in so many minutes. And I could hold my breath for 3 minutes at a stretch immediately after such exercise. This was due to over-charge of my system with oxygen.

(In 1902, I got a sudden and severe attack of asthmatic fit which kept me stranded near the window for 3 days and nights. My father had suffered from bronchial asthma almost his whole life and hence I was alarmed. I consulted the Sanyasin and he taught me this simple exercise deleting the Kumbhak or poise portion from Pranayam. I practised it assiduously with the result that up till now I am free from all lung troubles. And whenever I feel fatigued, I practise this pranayam and find myself equal to my task.)

1. Modifications: One can breathe with his nostrils equally effectively, mouth shut during the whole exercise.

2. The hands can be placed across the abdomen which is to be pressed during the stage of exhalation. This is for the beginner who cannot contract his abdominal wall fully in his first attempt. When he will be able to squeeze and contract his abdomen, then he can place the hands at the sides or behind.

3. If one wants to be thorough, he can raise both the arms slowly above his head with each inhalation, hold his breath, and then rise on tip toes. Then the arms are to be lowered at his sides and the chest pressed vigorously during exhalation.

4. Lastly, young persons may practise this exercise thus:—Raise the hands above as before during inhalation; hold the breath; bend forward keeping the knees straight until his fingers and toes meet; rise with the arms above the head; then lower the arms sideways, press the chest and exhale all the time.

1. Caution:—Over-exertion,—indicated by a feeling of weakness, dizziness, palpitation, unusual perspiration, discomfort, headache, a rise of temperature and of the pulse rate,—must be avoided by all means. Enthusiasm very often leads the young beginner to excess and this brings discredit to the system. Begin almost normally; 15 respirations per minute. After a month's practice the rate ought to naturally come down to 12. Stick to that for another month, and then one less every month,—one can reach the safety line, 5 to 6 per minute.

2. Consumptives should never attempt the exercise. Spitting of blood is a bar for all ages.

3. Chronic Bronchitis with Emphy-

sema of all standing is a natural bar. But recent victims will find in this exercise possibly the only remedy.

4. After excesses of all kinds, breathing exercise should not be undertaken.

As a Treatment, daily "supervised" breathing exercise of the above simple type is a cure for (a) misdirected Kumbhak Yoga and similar practice with the breath; (b) suspected Tuberculosis of the lungs; (c) chronic adherent Pleurisies; (d) various Back-bone deformities, etc.

(Rai Saheb P.N.B. of the Postal Service used to practise Kumbhak yoga. In 1911 or 12, when posted at Madhupur, he spat blood on several occasions, felt feverish, got alarmed, consulted specialists and was declared a suspected case of Phthisis. He consulted me in despair believing himself doomed. Close questioning revealed to the writer that Mr. Bose had been lately practising Kumbhak "with over-exertion." It was a hard task to convince him that T. B. had entered his Mind and not into his Lungs and that his overdoing of the Hathayoga had resulted in venous congestion and hæmorrhage from the lungs. As he saw no other alternative, he consented to practise my system very slowly and went away straight to his post at Madhupur. He returned to me a month and half later, altogether his former self, without any vestige of weakness in him.)

Narrow-chested children and pre-tuberculous subjects,—family of consumptives,—are sure to derive permanent benefits from this simple exercise, when guided properly.

Conclusion:—The Breathing Exercise recommended above can be undertaken with profit by any one possessing average intelligence and patience. I earnestly request every intellectual person to practise this simple Prānāyāma in empty stomach, morning and evening; within 3 months of regular

practice, the act will be performed automatically needing little effort. The mind can then be fixed to one's *Ishtam* or to the One Absolute whence comes real Shanti, Peace, Balance of Mind. The day's work can then be undertaken with confidence and cheerfulness.

Care of the Newly Born

By

DR. K. L. NARAYANA RAO. M.B., B.S.,

Madras.

CIVILIZATION is the cause of many evils; one of them is the modern woman. She does not think that bringing up of children is her first duty to God and man-kind, and platform, the office, the club, etc., are only of secondary consideration. The modern mother, for reasons best known to her, tries to avoid breast feeding the child and shirks the responsibility of the care of the child to an ignorant menial. By that she does great harm to the infant.

The breast-milk is the most suitable food to the child; its constituents are in such proportion as to be easily digestible and assimilable by the child. It contains vitamins, the essential food factor, which is not destroyed by boiling or other artificial means. There is no danger of contamination, as the milk passes direct from the breast to the child's mouth. It also contains antibodies for the protection of the child against disease. During the siege of Paris the infantile mortality rate was lowest, as all mothers were forced

by circumstances to nurse their infants. When milk-supply was rationed in Germany during the last war, most mothers had no other alternative, but to nurse their infants with the result that infantile mortality was reduced. If a mother is unable to take proper care of her children, we would rather wish her to have recourse to birth control methods, than be a party to the sufferings of her children.

Another point I would stress here is when to begin feeding the newly born. Though the milk is formed by the third day after delivery, there are many advantages by putting the child to the breast from the first day. For the first three days breast secretes what is called colostrum, which supplied the infant with nutrition and also acts as a mild laxative. It teaches the child to suckle, stimulates the breast to secrete more milk and reflexly helps the contraction of the womb.

One of the most common complaint of the mother or the nurse is that the child does not suckle. It may be a

retracted nipple, in which case the nipple must be properly drawn out, or the child is not properly held to the breast, or the flow of the milk is not quickly established. The mother and the nurse are apt to jump to the conclusion that suckling is impossible. But in many cases, failure is due to want of perseverance. Suckling of the infant is the natural stimulus to milk secretion, and by persevering longer many of the defects would be set right, the child would learn to suckle, and the natural secretion of milk would have finally set in. But what they commonly do is to use a breast pump. But it is a dangerous thing; because the milk dries up very soon by loss of stimulation of suckling.

Regularity is the most important thing in the feeding of infants. Digestive troubles are always caused by inconsiderate feeding. Habit is formed from the first day of life. So the child must be made to understand from the first day that crying would not help it in any way and it will be fed only when it is time. Infant must be put to the breast about three times on the first day, every four hours on the second day and every two hours on the third day. If the infant is strong and well built, three hours feed is sufficient. For the first five or six weeks, feeding should be continued every 2 hours between 6 a.m. and 10 p.m.; afterwards intervals should be lengthened to 3 hours. At nights couple of feeds are needed in the beginning. Later on one meal in the night is sufficient. The baby would be at the breast for about 15 to 20 minutes each time. The child should be fed alternately from each breast, because the second part of the milk is better and more nutritious. The infant must not be allowed to fall

asleep, nor to suck at an empty breast, lest it should draw air into its stomach.

Mother's milk may be deficient in quantity or poor in quality. A thin and watery milk not only fails to nourish the infant, but also causes flatulence. Causes of deficient milk are fatigue, worry; insufficient food and administration of certain drugs. In such cases mother must be given complete rest, freed from all worries, must have plenty of fresh air and good sleep. An increase in protein foods, such as meat, fish, eggs, milk, etc., is valuable in enriching the milk. Plenty of fluid and barley water will also be useful in increasing the quantity of the milk.

The new fashion, that is slowly coming into vogue in India of using a mouth-soother or what is commonly called a "nipple," deserves to be strongly condemned. We are feeding the foreign manufacturer at the cost of our children. The "nipple" is liable to fall into dirt or dust on the public road or into the sewage gutter, but the same thing will be rubbed and again inserted into the mouth by which all sorts of disease germs will get into the mouth. Constant sucking of the "nipple" will cause unnecessary stimulation of the salivary and gastric glands, and this upsets digestion, and the starting point of many troubles. The reason given by the mother of using such a thing is that without it the child will cry. Of course, it is there when the habit is formed, and to stop it will be a great task. But why should the mother at first teach the child a bad habit? Have not for centuries mothers brought up hale and healthy children without using such a "nipple," and why should the present day mother harm her children by using it?

Gymnastic Pyramids

By

Prof. K. B. MADHAVA, M.A., A.I.A., (Lond.).

President Mysore University Union, Mysore.

GYMNASTICS, as is well known, is an open air system of exercise performed with the aid of some apparatus. It exercises fully the several parts of the body from top to toe and makes blood circulation vigorous so much so that, it not only develops the various muscles in the different parts of the body, but after lengthened exercise, it is certain to lend exceedingly beautiful formation and grace to the muscles. But individual exercise of this description has suffered both in that it produces tedium

and fierceness in the individual practising it, and in that it fails to inculcate the *esprit de corps* and team spirit which is the claim and attraction of all modern game and sport, while to the onlookers also there is an inevitable monotony. All the unfortunate features are eliminated in the system of Gymnastic Pyramids which are an advancement on the individual independent feats of strength performed by an athlete. It has all the merits of the individual exercise but without its monotony

and tedium. It develops a fine sense of fellow-feeling, co-operation and dependence of each on the rest. Team spirit, which is again, group discipline or the subordination of one's will to the will of others is encouraged to the finest shade, and above all, even to the onlooker the pyramids produce, as the three pictures reproduced below do, surprisingly charming and artistic spectacular effect.

The first illustration is known as "The Flying Bridge" because of the three chain-like bits, one above the other, linked up by the slender support and seeming as though the whole thing is floating in

the air. It looks like a series of bridges placed one over the other, flying at is were, particularly when looked at from a yonder distance. This exercise is particularly calculated to develop the biceps, triceps and the muscles of the back to the members in lowest row, while for the members in the second row the forearm, the shoulder blade and the abdominal muscles are in particular exercised for the two members on either side. The

relaxation. The frequent movement of this is a sure prescription against constipation which is the root of all ailments.

The second illustration is called "The Drooping Flower."

The man in the centre squats on the bars with four around him with pinned hands and club legs and represents the stage of the bud. The man in the centre also slowly slowly raises his legs, which are no



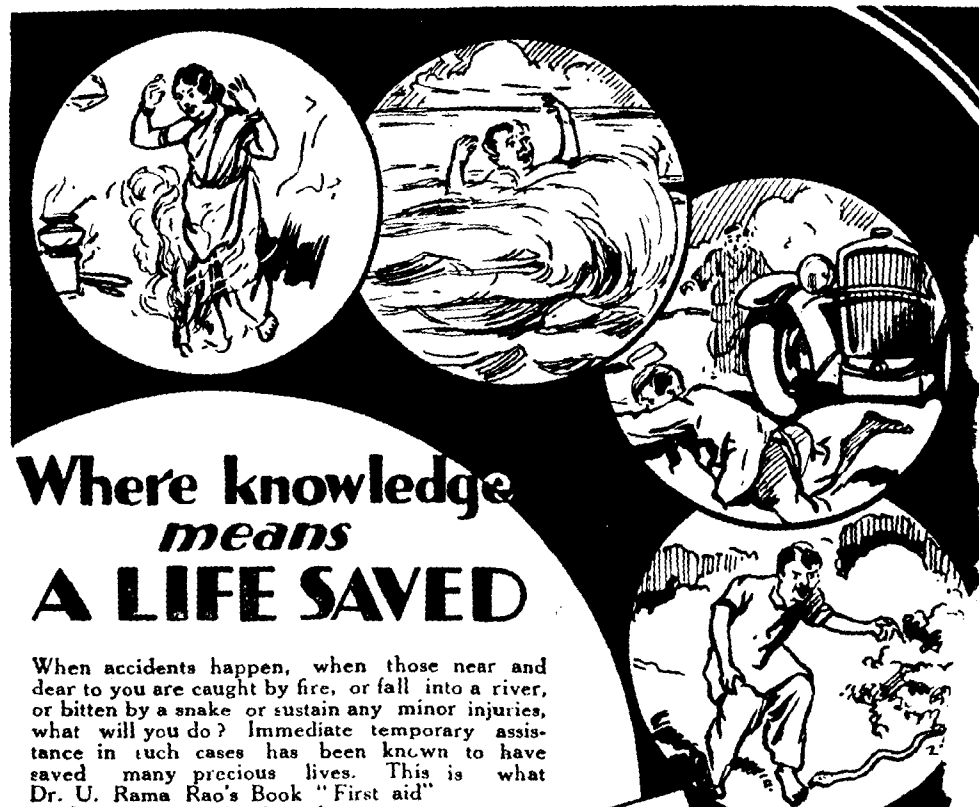
The Flying Bridge.



The Drooping Flower.

middle man bears in addition the entire weight and forms in reality the key-stone of the whole arch. The topmost row gives the finish to the whole design and makes it a perfect whole. These are selected from persons having a good knowledge both of the theory and practice of the art and having complete control over bodily movement. The one common feature in this exercise is that the abdominal muscles have great possibility for contraction or

longer on the bars, but the four around him slowly share the whole strain in an intermediate position, known as the blossoming stage which is exceedingly difficult to keep up. The drooping stage is the stage seen in the picture when all the petals fall down on the sides, the stem in the centre stands out bold (represented by the man with the straight arm balance.) The pectorals, calf muscles and the muscles of the thigh are greatly strained in this item

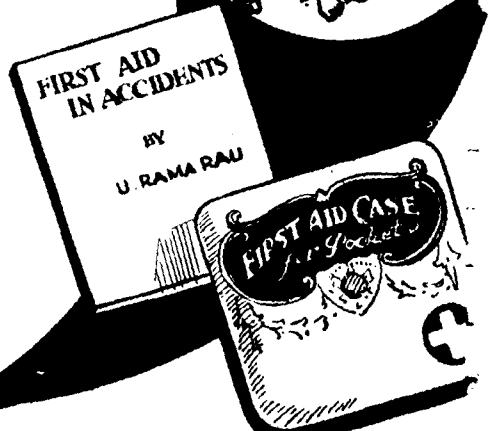


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