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## EDITORIAL

### A. R. P.

**I**NTERNATIONAL developments have brought the Zone of War nearer to India and at any moment her capital cities may be threatened from air raids which appear to be the first step in modern warfare. These air raids seem to be imminent in view of the Japanese occupation of French Indo-China, and the worsening of Anglo-Japanese relations. Thanks to the Press, the public now know what air raids mean and the devastation caused by high explosive and incendiary bombs showered over cities.

For considering the nature of precautions to be taken to meet the situation when it arises, it is necessary to have an idea about these bombs and their destructive capacity. The high explosive bomb ranges in weight from 25 to 4,000 lbs., but the most commonly used range from 250 to 500 lbs. Some are designed to explode on contact with the target, while others are fused to explode after sometime. A 500 lb. bomb can penetrate through a number of floors of multi-storeyed buildings and reach

the ground floor and explode, destroying the whole structure.

Incendiary bombs are very much smaller and generally weigh about 2½ lbs. Showered over built-up areas in large numbers, these bombs start conflagrations, in fighting which Fire Brigades are faced with really hard task. Gas has not yet been used, but the possibility can never be ignored. Poisonous gases in liquid form are sprayed over the enemy or let down in bombs. The liquid evaporates and poisons the atmosphere and harms the people. Some affect the eyes, others the nose and some others the skin and the lungs. The deadliest is mustard gas which the Italians used in Abyssinia. Its effects are not noticeable till cure becomes too late. Contact with the liquid or vapour causes blisters on the skin and inhalation of the gas normally leads to agony and death. Mustard gas vapour can penetrate clothing and building materials and render them unfit and dangerous for use until they are decontaminated.

Numerous measures are necessary to meet the danger from an air attack. Governmental precautions comprise, manufacture and maintenance of fighter air-craft, anti-air-craft guns, balloon barrages, and other preventive measures, as well as the construction of air-raid shelters, evacuation of civilian population from vulnerable areas, organisation of medical and other services etc.

Precautions to be adopted by the rich consist of voluntary evacuation

Government are gathering momentum and in several cities extensive organisations have been formed. Obscuration of light as opposed to total black-out, is enforced in Calcutta, Bombay, Madras, Karachi, and Rangoon and other cities and the medical aspect of the problem has been receiving considerable attention.

Although very expensive and elaborate measures are revealed to be necessary to effectively deal with air-raids and their consequences, there

are many inexpensive precautions, the observing of which will reduce to a considerable extent the terrific consequences of bombs. When the air raid siren sounds, the people will do well to get under cover, if air-raid shelters are not accessible. Vehicles should pull up in side streets and the "cart put before the horse". People

should not get panicky. It is the worst danger in a raided area. The directions of A. R. P. Wardens should be faithfully followed, to reduce the consequences of disaster. First Aid Posts and Centres should be organised in vulnerable areas, since immediate treatment in hospitals may become impossible. The Medical Profession in particular, has a great task to play in relieving air-raid suffering.

In every house, at least one room



#### LONDON PRECAUTIONS AGAINST FIRE BOMBS

As a protection against the indiscriminate showering of incendiary bombs by German raiders bags of sand are being placed outside house shops, and offices in London. A volunteer force of citizen fire-fighters will help to deal with this new menace.

to rural areas, shifting their residences to the outskirts of cities, provision of air-raid shelters and measures for strengthening their residences in a manner to withstand aerial bombardment.

The poor and the middle-class people in Indian cities cannot afford to adopt precautions involving expenditure of money and it is the duty of the Government to provide for their safety. Gradually, A. R. P. activities of the

or cellar should be strengthened to resist gas, blast and splinters and fire. This will serve as a refuge for the family when the siren wails. It must be easily accessible and should have two entrances, adequate ventilation, and blast-proof windows. The ceiling should be strengthened to resist the collapse of buildings closeby.

In the refuge room, there must be drinking water, gas masks, clothing, spades and pick-axes and other implements, electric torches, fire-extinguishers, blankets, plank beds and emergency lavatory. The refuge room should be made quite familiar to the members of the family.

Houses and buildings must be



ANOTHER CRIME BY GERMAN AIRMEN.

A feature of the German air raids on Britain has been the bombing of hospitals, many of them being hit repeatedly.

This picture shows a ward of a London hospital after it had been attacked with incendiary and high explosive bombs.

The size of the refuge room should be such as to provide three cubic metres of air for each inmate. This would make the shelter fit for use for three hours without artificial ventilation. If a ventilating plant is installed, it must be capable of being worked by hand when electricity fails.

strengthened to resist incendiary bombs, blast and splinters of high explosive bombs exploding at some distance. Measures for protecting the structures from direct hits are very expensive. The ceiling in every house should be converted into a re-inforced concrete one, preferably reinforced

concrete 5" thick, and made resistant to incendiary bombs. The brick-work of buildings should be plastered and polished smooth to facilitate washing down when contaminated by gas. Every arrangement must be made to fight fires started by incendiary bombs. We should also remember that an incendiary cannot be extinguished by water. It should be covered with dry sand and removed, by

the mask can only protect the face and lungs from poison gas. We must, however, get used to wear the mask correctly. Breathing through them must be practised. Constant practice is necessary to ensure correct fitting in times of emergency. Nose irritant gases affect the upper air passages, as well as the lungs. Immediate relief is obtained by smelling calcium chloride, water vapour and fresh air.



#### FLOATING FIRE FIGHTERS

Firemen of an English town converted this motor-boat for use as a Fire-Float to combat river-side fires caused by German air-raiders. Equipped with six powerful pumps producing 2000 gallons of water a minute, the Fire-Float is here seen during tests.

Red Hill equipment, to a place where it would burn out harmlessly. Attics and roofs of houses should be cleared of inflammable material and combustible articles should, as far as possible, be eliminated from the house-hold, or fire-proofed. Provision for adequate water-supply should be made and tanks and wells in cities should be cleaned and kept full.

Regarding precautions against gas,

Mustard gas causes blisters and ulcers and deep-reaching phlegmons develop secondarily. Care must be taken in opening blisters because they contain poison. When blistered, the surrounding skin should be protected by vaseline. Ulcers should be treated with 5% Pyoctanin or dabbed with Sulfolignite. If more than 10 minutes have elapsed since the poison was sprayed on the skin, it has already

penetrated. The skin should be, then, dabbed with paraffin, alcohol or petrol.

Garments splashed with mustard gas must not be allowed to remain in the refuge room, as the vapour emanating from them would endanger the occupants. Poisoned clothes should not be touched, but removed with the help of sticks. Food and food articles should be kept in vessels with air-tight lids, preferably glass jars.

Since the main object of air-raid is to destroy the morale of the people, every effort should be made to prevent its break-down. This, however, is inexpensive and public co-operation will help to achieve it to a large extent.

People must familiarise themselves with ideas and facts about air-raids and their consequences, long before they are attacked. The authorities should inform the public in clearest terms the horrible consequences of

remaining in congested, industrial and military centres, so that the public may voluntarily arrange for themselves evacuation from vulnerable areas. House sites in rural areas could be had at comparatively cheap prices and the city population can, with a little effort, remove to the outskirts of cities and live in inexpensive, temporary accommodation for the duration of war.

The danger of air-raids may come at any moment. It will not wait till we in India undertake and finish all precautionary measures. The most important precaution seems therefore to be the cultivation of presence of mind and calmness and the determination to face the worst. Men must take care to see that their women and children are sufficiently pre-informed of everything about air-raids so that they may not be taken aback at the eleventh hour and create panic in the locality.

#### Reference :

"Air Raids and Civil Defence—by L. M. Chitale, Chartered Architect, Madras, and "The General Practitioner" Dec. 15th '35.

### The Crucial Test

It is easy enough to be pleasant  
While life flows by like a song,  
But the man worth while is the one  
who will smile  
When everything goes dead wrong.

For the test of the heart is trouble,  
And it always comes with the years,  
And the smile that is worth the  
praises of earth  
Is the one that shines through tears.

It is easy enough to be prudent  
When nothing tempts you to stray,  
When without and within no voice  
of sin  
Is luring your soul away.

But it is only a negative virtue  
Until it is tried by fire,  
And the life that is worth the honor  
of earth  
Is the one that resists desire.

By the cynic, the sad, and the fallen,  
Who have no strength for the strife,  
The world's highway is cumbered  
today;  
They make up the items of life.

But the virtue that conquers passion,  
And the sorrow that hides in a smile,  
It is these that are worth the homage  
of earth,  
For we find them but once in a while.

—Ella Wheeler Wilcox.

# THE COMMON CHILLS

By DR. G. RAMAN PILLAI, M.B., Ch.B. (EDIN.), *Trivandrum.*

**M**ost lives are cut short by diseases originating from chills. A chill too often raises the curtain on the final tragic scene of life; and yet we are not afraid of the chill. Chills start the process of dissolution which, once started, rarely restores our normal health.

A chill respects no age. It seems a relentless process of Nature, especially in the case of the enfeebled and the aged.

The chill is usually related to the physiological functions of the skin.

The skin is the one organ which is most exposed to the atmospheric changes. The other organs are less exposed. All living tissues live and function best when kept at the constant body temperature. If this temperature is raised or lowered either by fever internally or by climatic changes externally, cell activity is lowered and the organs become a prey to any microbes that might have been present at some odd corners of the body. Hence the supreme need of our taking steps to keep the body temperature constant by warm clothing in the cold climate or by ice-packing when in high fever. The most important organ that is helpful to us in regulating the body heat is our skin. Its extensive surface exposes a large portion of our circulating blood to the atmosphere at a given moment. It is our 'radiator' as it were, to keep the body safe from over-heating or chilling. Our tissues are constantly generating heat by chemical action and the heat is prevented from accumulating by radiation through evaporation from the skin. About 5/6 of our body heat is thus disposed off by the activity of the healthy skin.

The inner organs depend thus on

the constancy of the skin temperature for their life. It is when an organ is suddenly depressed by sudden chilling that disease germs, lurking in the body (they encamp here and there like 'guerilla' bands of the enemy) pounce upon that organ, cause a pneumonia, for example, or other diseases. It is this sudden cooling of an organ that we denominate 'chill'. The chill can be produced by the sudden cooling of our skin, as also by the drinking of an iced soda while we are hot after exercise. Wearing a wet shoe at rest acts like an ice bag to the feet in robbing the body of its heat. A highly tempting cold bath, when one's body is heated, can cause incalculable mischief. Persons susceptible to cold and asthma should avoid wet feet.

One can contract a chill in a hot climate as well as in a cold climate. This may sound unreasonable. A porous-earthen pot or a 'kuja' of warm water exposed to a draught of air gives us the delicious cool drink of the summer. The pot 'sweats'; and chills the water inside, in doing so. The porous skin does the same thing by cooling our heated blood. We utilise this scientific fact in the case of a pot of water, but we forget it when the safety of our health is concerned. This simple physical phenomenon, once understood, should save us from many a chill, which means from many a disease. The chill must be taken as a notice of a coming disease. It is for us to take the warning. In Europe the loss of heat of the body from evaporation is about 25%; in India it is about 40%. So, perspiration is brisker in India; and the chances of chills can be greater by injudicious clothing and exposure.

When the supply of the heat of the

body is becoming exhausted by prolonged exposure, the body is stimulated to produce more heat by forcing some of its organs to do extra work. We 'shiver' with cold. This means that we are forcing our muscles to extra-ordinary contractions in order to increase the heat supply.

Chills produce congestion of internal organs. And severe congestion when prolonged and not relieved, depresses the organs, and they are attacked by disease. We see that an exposure leads to sneezing owing to congestion of the vessels in the nose and throat. It is not uncommon to see relapsing colds leading on by 'forced marches' to more serious organic diseases, even to consumption.

Prevention of chills may, to a great extent, be achieved if the causes of chills mentioned above are avoided. The main principle is to avoid sudden lowering of the skin temperature. Adequate heat-producing foods (butter, ghee) should be taken in cold climates, and in the cold season. Physical exercise is essential, as also invigorating baths where these are permissible in people whose blood vessels and heart can react favourably. Invalids should rely more on economising their heat energy by clothing and avoiding chances of excitement and exposure. The hardening against chills is a commendable proceeding in children and the young with elastic blood vessels that can respond to the stress and strain. Life in the open air minimises the risks of chills; The naked labourer in the fields is not so liable to get chills as the civilized city dweller who clothes himself profusely and perspires profusely. Dress should be according to the weather and not according to fashion. Clothes causing excessive perspiration at rest are to be deprecated. All tight clothing prevents evaporation of perspiration. Sitting under a fan or a draught while sweating is very injudicious as the rapid

evaporation of moisture from the skin brings on a chill. Rain-bearing winds call for extra care from invalids. A sweater after exercise prevents a too rapid evaporation.

Those, who would not and cannot remain indoors after a hot bath, had better not take the bath at all, as the hot skin resulting from the bath is peculiarly liable to a great risk of chill. A good dose of whisky is reputed to ward off a chill, taken at bed time. But it is of no use to those who have managed to contract the chill by over indulgence in the liquor itself! A foot-bath is another contrivance to make us perspire and to



A hot foot-bath for exciting perspiration and thus stabilising circulation by relieving the congestion of internal organs—a contrivance useful only in the early stages of chill.

stabilise and equalise the circulation by relieving the congestion of internal organs. The feet are immersed for about 20 minutes in water as hot as can be borne, while the patient is covered over by a blanket. This is useful only in the early stages of a chill. But when it advances to the stage of an established disease like bronchitis, the doctor should be called in. The Ayurvedic system lays much stress on the importance of the skin in influencing the internal circulation. The oil baths act as useful protecting buffers against the atmospheric temperature variation.

# CLOCK WORK BABY •

By W. C. Hausze, L. M. P. (MADRAS),

*Madampe Group Hospital, Kahawatte, (Ceylon).*

**M**ODERN babies should be brought up by clock-

work regularity. They should be fed, washed, dressed, and aired by the clock. This steady repetition of daily actions is far more important than it sounds.

It instils a sense of routine and order in the child's life, establishes a regularity of feeding, which is good for the digestion, and forms the habit nucleus :

**Be regular :** "One has to begin as one means to go on", so goes the saying. A baby becomes a creature of habit almost as soon as he is born. Good habits are time-savers and brain-savers. Feeding times should be three-hourly or four-hourly, as the Doctor decides. Bath time should be at the same time each day.

A new baby's time-table should be as follows :—

6 a. m. :—Early Morning feed.  
9-20 a. m. :—Prepare bath, lay out clothes, napkins, powder, and all the necessary etceteras for the morning ablutions. 9-30 a. m. :—Bath and dress baby. 10 a. m. : Feeding time. Sit out. 10-30 a. m. :—Put in pram

to sleep in the garden. 2 p. m. :—Feeding-time. 2-30 p. m. :—Put in pram to sleep again. 5-30 p. m. :—"Top and tail" baby and put on night-gown. 6 p. m. :—Feeding-time. 10 p. m. :—feeding-time.

It will take three or four weeks to accustom a baby to this routine. But the mother should never break her rule about feeding.

A baby should be trained to go through the night without food, and to sleep from ten o'clock at night till six o'clock in the morning.

**Don't give in :** The eight hour rest is just as important for a baby as it is for the mother, who needs her night's sleep, and it gives the baby's digestive organs a rest.

If you give in to your baby's cries at four o'clock in the morning and feed him for the sake of peace, you will establish a precedent which will become a habit.

Put up with a few disturbed nights at the beginning and you will be rewarded in the end.

## New Type of Castor Oil in Infancy and Childhood

Of late years, there has been a growing tendency to attempt to replace the use of castor oil in pediatric practice, because of the attending difficulties of its administration. It still is the most useful of the cathartics, an excellent detoxifying agent, and gentle in its action in the gut. Fantus says of it, "Were it not for this unique combination of action, it would probably have long ago been consigned to the limbo of the abandoned scourges of the ill. It is a fact that it is the least irritant of the powerful and reliable cathartics, the most potent of the evacuant oils, that renders it still indispensable.—*Medical World.*



# DIET—WHEN and HOW to TAKE

**D**IET is the most important item of daily routine in the life of a human being. It

is his main source of nutrition and energy required for the working of the human machine. It fulfils practically all the requirements of the body. It not only supplies petrol for combustion but also mobil oil and grease for lubrication, besides providing the material for the repair of its wear and tear. Hence a few suggestions as to how and when to take would not be amiss even at the cost of repetition—the subject being one of the most widely discussed at the present time.

1. The diet should be well cooked and nicely served so that it may stimulate appetite by its very presence.

2. Articles of diet should vary from day to day as variety is the spice of life. The same article served for a few days kills the appetite. Those who can afford should have at least two dishes at each meal so that, if one is not cooked properly or is not to the taste, his meal may not be spoiled.

3. The food should be eaten slowly and chewed thoroughly. God has given us 32 teeth and if one bite comes to the share of each one, we must chew each morsel at least thirty-two times. In this way each morsel is very finely chewed and saliva which contains special juices for the digestion of starchy matter becomes thoroughly mixed up with it.

4. One should not eat so much as to completely fill the stomach but should leave a little hunger unsatisfied.

5. Too much spiced diet is bad for

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liver and digestion but a little of lemon juice, chutney or vinegar or soury

things like dahi and tomatoes are valuable adjuncts for stimulating digestion.

6. The meal should not be preceded or followed immediately by any kind of mental or physical exertion. One should rest a bit. A patent cause of indigestion in clerks and businessmen is that they gulp off the food at the last minute and then rush off to the office in order to be punctual. They should always commence their meals leaving a sufficient margin to take a bit of rest before proceeding to their work.

7. A little water with the meals is beneficial but too much just after or before meals is injurious. One should, however, take plenty of water in between the meals.

8. Too cold or iced water is not conducive to good digestion.

9. One should never take bath nor do mental nor physical work immediately after the meals but in summer a bath just before the meals is refreshing and appetising.

10. Mood plays an important part in good digestion. At the time of meals one should be happy and the surroundings and company should be pleasing. One should avoid taking meals when he is angry or worried.

11. One should not go to bed immediately after dinner but should rest for at least two hours. A common habit at least in the Punjab is the taking of milk at bed-time as it is said that in this way one gets a good motion in the morning. But this is due to the milk not being digested.

If the milk is digested properly it should cause constipation rather than act as a laxative.

12. One should take at least four meals a day separated by suitable intervals; the morning and afternoon meals being light while the noon and night ones should be full meals. The practice amongst some of taking only 2 meals at 10 a.m. and 6 p.m. is bad. So also the habit amongst womenfolk (at least those who do their household work with their own hands, and not those of the butterfly type) that the first morsel or sip of fluid is taken after finishing their whole work—that means about 11 or 12 noon. Then from this time onwards, they go on eating till 7 p.m. and then nothing is taken till the next day. It means

filling the stomach for 8 hours and leaving it alone for 16 hours. This irregular filling leads to many a disease of the digestive system.

13. A little sweet thing or rather "gur" at the end of a meal aids digestion, especially after a meat diet. It is a good custom in modern society to serve some kind of pudding as the last course of the meal.

14. Articles cooked one day should not be eaten the next day.

15. Last but not least, the food before serving or served articles when not in use, should invariably be kept covered to protect them from dust and flies. The horrible effects of contamination by these are too well known. Everything in which a fly has fallen, should be thrown off.

## OBSERVATIONS ON RICE AS OUR DIET

*By S. RANGASAMY, Dt. Health Officer, Vizagapatam.*

**I**T is proved and accepted by all beyond question that milling of rice makes it unfit for human consumption.

Pounding or the use of dhenki for the making of rice is not much better for the following reasons.

There is no test by which a sample can be declared to have been got by pounding. What is obtained in bazars as such may be fraudulent imitation by colouring the milled stuff, or mixing of pounded and undermilled varieties.

The labour required for pounding is difficult to obtain even in villages. In towns it is not possible also to get the space in every home for this operation.

Even granting it is done at home, the stuff obtained is similar to the milled variety. When diluted tincture iodine is added to a sample of each of milled and pounded rice both turn black and in almost the same time. This proves the absence of the

protective and valuable outer layer in both. The embryo which is located at the end of each grain is absent in both varieties and an ecliptical notch is present at its place. This embryo is the seat of vitamins. Rice made by wooden grinder, does not turn black and the embryo is in tact in each grain. Chemical analysis-tables given below prove the same fact that milling and pounding equally harm the food stuff.

When change of diet is necessary for curing certain ailments the doctor has to prescribe wheat or ragi as even pounded rice offers no benefit. Diabetes and beri-beri are examples.

The wooden grinder prepares rice which is found to overcome the difficulties mentioned above and in addition has several other advantages.

The making of these grinders is a useful village occupation for the carpenter.

The grinder itself is a useful cottage industry for every home to make rice from paddy at leisure hours by the housewife herself or even by hired

labour. One person can prepare rice from a bag of paddy in a single day. It can thus economically compete with pounding.

The output of rice from a bag of paddy is greater—at least two kunchams for each bag.

The consumption rate for individual is also much less, being a stronger food.

This rice alone can help in prevention of such diseases like beri-beri, gastro-intestinal troubles and a host of other maladies said to be due to vitamin B deficiency.

Diseases like diabetes and leprosy which are indirectly caused and increased by food deficiency can be controlled by proper diet.

When nutrition is defective any disease more easily invades a person and in a campaign of eradication of any disease like consumption the first attention ought to be paid to the improvement of the diet of the common people.

There is a physiological economy to the digestive system in that a smaller quantity alone need be digested to obtain the same or more nourishing value.

This food enhances the capacity to work and very probably increases the span of life in course of generations.

Storage of rice renders it poisonous by producing some changes in the composition of the rice which cause serious illness. There is no need for storage of rice if prepared by the ground. The intact outer layer in the rice is an additional protection.

From the analytical composition tables given here, it can be easily seen that the ground-rice is superior and that there is not any appreciable difference between the milled and pounded varieties. Protein value, fat, fibre, salts and vitamins are only present or present in excess, only in the ground variety. The acid value, which is bad for the health is only half of that for the pounded variety.

For expectant and nursing mothers, a full food like this helps the mother, and child and is indispensable if the large morbidity and mortality in mothers and infants is to be reduced. As the future of the race is dependent on the health of the mother and child, this is the most urgently called for reform by the individual and the State.

ANALYTICAL TABLE OF COMPONENT PARTS  
IN RICE OF VARIOUS KINDS AS DETERMINED BY THE NATIONAL RESEARCH  
INSTITUTE, COONOR.

	Rice prepared in wooden Grinder.	Rice, Home pounded.	Rice Milled.
Protein ...	7.24	6.79	6.70
Fat ...	2.33	1.42	0.73
Ash ...	1.34	1.14	0.83
Carbohydrate ...	75.04	76.19	77.34
Calcium (Ca) % ...	0.007	0.007	0.005
Phosphorus (p) % ...	0.231	0.209	0.158
Iron (Fe) % ...	4.55	3.57	2.88(?)
Caloric value ...	350.1	344.7	342.7
Moisture ...	14.05	14.46	14.40
Vitamin ...	+++	+	Nil.

*Results of Analysis of 3 samples of Rice Received from the Asst. Director of Agriculture, Rajahmundry with his Letter No.293/38 dated 25-3-38.*

Laboratory Number 1938—39.	506	507	508
	Hand pounded.	Wooden Grounded.	Milled.
<b>Heads of Analysis :</b>			
Moisture ...	11.58	11.81	11.50
Ash ...	1.11	1.60	0.96
Crude Protein.	6.84	6.79	6.76
Ether extractives ...	1.055	2.44	1.05
Crude fibre ...	0.495	0.92	0.34
Carbohydrates.	78.92	76.44	79.39
	100.00	100.00	100.00
Albuminoids ...	6.69	6.06	6.65
Insolubles ...	0.192	0.262	0.169
Nitrogen ...	1.093	1.086	1.082
Acid value ...	82.60	57.44	92.32
Nutritive ratio.	1 : 11.9	1 : 12.1	1 : 12.1

—1938 Vizagapatam Dt. Health Week Publication.

# THE RAPE of THE RICE

**T**HE cheapest of the foodstuffs are the cereals of which, rice forms the sole or the main item in the food consumed by the majority of our people.

**How rice is devitalised and eaten.**—The outer layers of the whole rice contain more protein, mineral salts and vitamins than the starchy inner parts of the grain. Polishing deprives the outer layers. What little of protein, minerals and vitamins remained in the polished rice would be further reduced by the process of washing and cooking, since they are water-soluble.

The methods of milling and polishing rice (milled or home-pounded, fully or partially polished, raw or parboiled) and of washing and cooking it (boiling in excess or sufficient water, with or without *conjee* strained) have deprived it of its content of valuable protein, minerals and vitamins considerably, the extent of which would depend upon the degree of polishing, washing, etc. to which the rice is submitted, and without adequate quantities of which (proteins, minerals and vitamins), the process of digestion, assimilation and elimination are impaired.

The cooked rice is soft, sloppy and water-logged, containing about 72 per cent water. It is made more watery when consumed with such thick and thin acidic, salty and spicy preparations as, *pachadi*, *kootu*, *kolambu* (*pulusu*), pepper-water, butter-milk, etc. It is in consequence swallowed or bolted down. Owing to the seasoned condition of these preparations, water is largely drunk during meal time.

The make-up of the rice diet is such as would not provoke mastication and thorough mixing with saliva, without

By

R. V. Lakshmi Ratan, *Senior*,  
*Mylapore, Madras.*

which rice, a starchy food, cannot be well digested and absorbed into the blood-stream. It, therefore, gives the digestion a bad start with the result that the system gets poisoned sooner or later according to inherited capacity, age and activity.

**Poor physical condition and chronic ill-health.**—The methods of milling, polishing and marketing rice and of buying, washing, cooking and consuming it in the manner above described, are in great measure responsible for the poor physical condition and chronic ill-health of our people and their low resistance to diseases.

Of the evils of the present-day civilization, the most calamitous is the commercial exploitation-cum-mechanisation of food industries of paddy, wheat and seeds in particular, leading to malnutrition, as a result of which each ill-fed generation begets its successor and passes on its heritage of low vitality, malformation and diseases of the body and mind.

**Java Conference.**—The League of Nations Inter-Governmental Conference of Far Eastern Countries, on Rural Hygiene, held in Java in 1937, passed the following resolution:—

“The degree of milling to which rice is subjected is of vital importance in connection with the problem of nutrition throughout the East. In many countries, the poorer classes consume foods other than rice in small quantities, and it is very difficult, for economic reasons, to increase the amount of supplementary foods in the diet; in such circumstances, the nutritive value of the main article of food, which is influenced by the degree of milling, becomes of great significance. The Conference recommends that only under-milled rice should be supplied in Government institutions. Efforts

to popularise the use of under-milled rice by education and propaganda should be increased. It deplores the increasing tendency of urban and rural populations in the East to consume highly milled rice. It strongly recommends that Government should make a thorough investigation of the nutritional, commercial, economic and psychological aspects of the problem, attention being given to the possibility of checking the spread of mechanical rice mills in rural areas, with a view to conserving the healthy habit of consuming home-pounded rice and the means of making under-milled rice easily available everywhere for those who wish to purchase it."

#### Health Bulletin No. 28, Rice—

Investigations along the lines suggested by the Java Conference were carried out in India, as a result of which Health Bulletin No. 28 was published. It is stated on page 17 of the Bulletin that the people have learned to regard the mill as a convenience, that the mill has become interwoven with the economic life of the country and that in the circumstances, drastic legislation to prevent the further construction of mills, or to do away with existing mills would not be practical politics. The remedy suggested in the Bulletin is:—

"What can and should be done throughout India is to educate people about the food value of rice in its various forms. In this way a demand can be created for rice with its outer layers partially intact. This demand can be fulfilled by hand-pounded rice or under-milled (once polished) rice produced by the mills themselves. There is nothing to prevent the mills turning out such a product if there is a market for it. With regard to hand-pounding, we must remember that its encouragement will create employment of the 'Cottage-Industry' type, which is one of the aims of Rural Reconstruction Organisations in India."

#### Economic dilemma and education.

—Britain, with all her education, civilization, democratic ways, wealth, industrial and commercial advancement, and with her command over the resources of several countries held in different degrees of subjection, has yet to solve her nutrition problem satisfactorily. Malnutrition exists there largely owing to maladjustment as between the several groups of the social organisation. Dr. L. J. Harris (of the Nutritional Research Laboratory, University of Cambridge and of

the Medical Research Council) and others have referred to certain aspects of this matter in their publications.

Our contact with the English people has led us to follow in their footsteps and imitate their ways, some of which are not suited to India, particularly to her teeming agricultural and rural population.

Various circumstances which resulted in raising obstacles to resume the practice of hand-pounding of rice are briefly referred to in this article to show that educating the people about, the food value of rice in its various forms cannot be exclusively relied upon to popularise the hand-pounding or under-milling of rice, still less its consumption.

The appalling poverty of the people, brought about by unbreakable outside factors, stands in the way of finding ways and means to translate the knowledge into practice.

**Home-pounding of paddy.**—In an interesting note forwarded to the Nutrition Research Laboratories, Coonoor, quoted in Health Bulletin No. 28, Dr. Pattabhi Sitaramayya graphically described the various obstacles and difficulties in the way of home-pounding of paddy, thus:—

"Home-pounded rice means home storage of paddy. Most of the small land-holders own not more than two or three acres. They are in debts. What little paddy they grow is sold out in lump perhaps at the very field itself in order to meet the liabilities of debts, or some expenditure incurred by social ceremonies, or the purchase of cattle, construction of houses, and so on. In the months of January and February (harvest time) capital expenditure awaits the land-holder which has to be met by the sale of paddy. For the time being the house-holder is able to meet capital expenditure by selling paddy and live on credit till the beginning of next year when again the sale of paddy will enable him to meet existing and future liabilities. In effect the villager has no paddy to pound. There is no place to store paddy. There is no capital to purchase paddy or a bazaar where it can be purchased in small quantities. You can go to the bazaar and buy a few pounds of rice. It is very difficult to buy a few pounds of paddy because paddy is sold in large quantities at a time; there is no market where you can purchase your day's needs. Moreover, to

pound paddy you require three or four instruments: a couple of pounders each costing about Rs. 1/4/0, a sieve costing about 4 annas and a stone with a hole in it planted in the ground.....For home-pounding the height of the house should be 8 feet clear—5 feet for the persons standing, and 3 feet for the pounders to be raised. Most people live in huts or small places, and several families are huddled together. Want of home accommodation is a real obstacle in the way of pounding—home-pounding implies spacious accommodation, and room for storing the paddy. All these are unobtainable by the ordinary wage labourer."

**Uncontrolled exploitation.**—What with the economic policy of the Government and what with the uncontrolled commercial exploitation of the agricultural produce—particularly paddy, wheat and seeds—by different classes of capitalists, foreign and Indian in rotation, in the name of finance, trade, industry and such other seemingly necessary and useful things, the large mass of people living in rural India have been driven to drag on a miserable existence, on the verge of starvation, in a spirit of resignation to their fate.

*By long habituation to difficulties which they could not overcome, imposed on them by powerful external agencies, the people in rural India are caught in the grip of evils like malnutrition, under-feeding, ill-health, low resistance to diseases, unemployment, poverty, indebtedness, without making any effort, without hoping for improvement and without even wishing for a change.*

Though the ways of exploitation by mercantile interests prevalent in towns and villages are different, the majority of the people in urban areas, the well-to-do as well as the poor, suffer from ill-health of varying degrees, due to the intake of faulty foods, accentuated by lack of regular physical work or exercise.

**Keeping qualities.**—Rice polishings (germ and bran), which contain most of the protein, fat, minerals and vitamins, go bad within 3 or 4 days. Rice polishings should, therefore, be very fresh and sweet to serve as a food-stuff.

Whole rice (husked only, with germ and outer layers or bran, intact) becomes rancid and attacked by insects, weevils, etc. The quality deteriorates by aging. It goes bad within some weeks, and is not fit for consumption, unless it is fresh and sweet.

The keeping quality of partially polished home-pounded rice and of under-milled (once-polished) rice if produced by the mills, are inferior to highly polished rice.

Highly polished, devitalised rice has lost most of the nutritive material (protein, minerals and vitamins), and will, therefore, remain in the same condition for more than a year under proper storage, for the reason that it cannot afford any nutritive materials for insects, weevils, etc.

The keeping quality of paddy is considerably superior to those of the above, as its nutritive material is protected by the outermost covering, the husk.

**Why exploiters polish the rice.**—Rice is polished to enhance its keeping quality. If the whole rice (husked only) containing the germ and outer layers intact, is stored for some weeks, the oil of the germ quickly becomes rancid and the rice is attacked by insects, weevils, etc. Polished rice, having nothing to lose, would stand the delays in transit and in disposal and safeguard the pecuniary interests of the several middlemen intervening between the miller and the consumer. Trouble regarding finance, banking facilities, disputes about prices, rejections and such other difficulties may occur, if under-polished or under-milled rice goes bad by being attacked by insects. Carriers generally charge the same freight rates on paddy and rice (fully polished or under-polished), and since the weight and volume of the fully polished rice would be less, the cost of transport, handling and storage would work out cheaper in the case

of polished rice than in the case of paddy.

**Why consumers wash the rice.**—Milled or hand-pounded rice (raw or parboiled), sold in the bazaar or stores cannot be free from mud, sand, dust, etc. It gathers dust during transit by rail, lorry, carts and other means of transport, by being stocked in dust-laden platforms and open spaces, when loading and unloading, by storage in the godowns of wholesale merchants, and successive dealers and retailers, and when exposed for sale in the bazaar. Rice is therefore washed in two or three changes of water, well rubbed with the pair of hands during each washing, to free it from dust before cooking. The washed water is generally thrown away and wasted by the urban population, but in villages, it is served out to cattle.

**Losses in polishing and washing.**—The loss of vitamin B<sub>1</sub> which takes place on polishing raw rice is illustrated by figures given on page 7 of the Health Bulletin No. 28, on the basis of which the figures of relative values and losses of the same sample of rice at different stages of polishing have been calculated and shown hereunder, taking the value of whole rice (husked only), which suffers no loss due to polishing, as 100 :

	Value.	Loss.
Husked only ...	100.0	Nil.
Once polished ...	45.0	55.0
Twice polished...	25.0	75.0
Thrice polished.	17.5	82.5

(ready for market)

The same Bulletin says that the different stages of polishing of the raw rice result in very much the same loss of certain vitamins of B<sub>2</sub> group, deficiency of which may lead to serious disease.

Under the heading "Washing and Cooking" the Bulletin says :

Most of the food factors present in rice are little affected by the degree of heat used in cooking. The widely held idea that

all vitamins are destroyed when food is heated is wrong. But many important dietary constituents are soluble in water and can be washed out of food. Rice is usually washed several times before cooking and may be boiled in excess of water. The extent of the losses in food value which occur depends on the number of washings and on whether cooking water is discarded or not. If rice is washed three times and cooked with liberal amounts of water, about 75 per cent of the iron, 50 per cent of phosphorus, vitamin B<sub>1</sub> and other vitamins of B<sub>2</sub> group originally present, may be lost. Much more vitamin passes into the wash-water than into the water used in cooking".

Over and above the loss resulting at different stages in the polishing of raw rice illustrated in the previous table, the loss of minerals and vitamins caused by washing 100 grammes (8.75 tola weight) of raw hand-pounded rice three times and cooking it with a liberal amount of water is worked out on the basis of figures given on page 25 of the Health Bulletin No. 23, and shown :—

	Originally present	Loss
Phosphorus, gms. ...	0.17	0.085
Iron, mgs. ...	2.20	1.650
Vitamin B <sub>1</sub> units ...	60	30

"Vitamins—A Survey of Present Knowledge" (A publication of the Medical Research Council, London, 1932), on page 244, says :

"Any washing of the rice was found to deteriorate its value in vitamin B<sub>1</sub>. The vitamin is water-soluble and evidently diffuses easily out of the cells, when they are plunged in water, particularly when the cells have first been killed by parboiling."

**Rice after cooking.**—It would have been observed from two tables given above, that the losses of vitamins and minerals resulting from the polishing and washing of rice have been considerable. What little remained of them after the polishing and washing of rice might have been reduced still further or entirely lost by the process of cooking. I have not been able to get at any publication indicating the vitamin and mineral contents of the cooked rice after the polished and washed rice has been cooked in water and after the excess cooked water (*conjee*) has been strained.

**Vitamin B<sub>1</sub> deficiency.**—It will be seen from the last para but one that, besides the loss of minerals and other vitamins, Vitamin B<sub>1</sub> is almost absent from polished, washed and cooked rice, and since rice constitutes the sole or predominant part of the rice-eater's diet, it is certain that even the few other articles of food, if any, do not provide sufficient Vitamin B<sub>1</sub> to balance the diet as a whole.

Taber's Digest mentions the following disorders as due to Vitamin B<sub>1</sub> deficiency :

“ affects growth, appetite and lactation ; causes digestive disturbances, enlargement of liver, reduction of pancreas, affects the thyroid, causes degeneration of sex-glands, reduces catalysis of tissues, affects the nervous system, deranges the endocrines ; induces edema, affects the heart, liver, spleen and kidneys ; enlarges the adrenals and deranges function of the pituitary and salivary glands, and cause of some disorders in diabetes. ”

According to Funk and Douglas (1921), Mc Carrison (1921), Cramer, Drew and Mottram (1921), G. M. Findaly (1928), a marked feature of Vitamin B<sup>1</sup> deficiency is the atrophy and cellular degeneration produced in

many organs, intestinal and gastric mucosa, pancreas, salivary glands and liver, a special feature being the disappearance of lymphoid tissue.

A catalogue of serious diseases having their origin in deficiency of this vitamin could be made out if all the authorities of international reputation are consulted.

*Will the medicines, then, cure the food-deficiency diseases, or take the place of natural foods of good nutritive and protective value ?*

It will be appropriate to quote in this connection what the Final Report of the Mixed Committee of the League of Nations on the Relation of Nutrition to Health, Agriculture and Economic Policy (Geneva, August 14, 1937) has, on page 59, stated :

“ In spite of the application of the knowledge of medicine and hygiene, the physical condition of a large part of the human race is still far below the accepted standard, and the more recent advances in medical science have established the fact that the inferiority is largely due to imperfect nutrition. ”

This article will be continued in the next issue under the caption **The Rice Riddle—A Modest Solution.**

#### References :

1. Health Bulletin No. 23—The Nutritive Value of Indian Foods and The Planning of Satisfactory Diets. (Price, annas two).
2. Health Bulletin No. 28—Rice. (Price, annas two.) The above two publications can be had from the Manager of Publications, Civil Lines, Delhi, or from any Provincial Government Book Depot.
3. Vitamins — by L. J. Harris, Cambridge University Press.
4. Vitamins — A Survey of Present Knowledge. (A publication of the Medical Research.
5. Taber's Digest of Medical Terms.
6. Final Report of the Mixed Committee of the League of Nations on the Relation of Nutrition to Health, Agriculture and Economic Policy. (Geneva, August, 1937).
7. Way Back to Health—Sri Lakshmana Sarma, B.A., B.L., Nature Home, Pudukottah.



# WHAT DECIDES THE SEX OF A CHILD?

THE theory of the cross-heredity of sex rests upon the phenomenon of the weaker parent striving to perpetuate itself. Female animals which are impregnated by older males produce males and those animals which are debilitated by reason of ill-health duplicate their own sex. If the father is the stronger physically a female should result from the next impregnation and vice versa; and the older parent, who in normal circumstances, has a shorter time to live, makes a natural effect, in the struggle for life, to preserve his own sex. This effort of the weaker to perpetuate itself is involuntary and may be classed as a law of Nature. Examples of this abound in animal kingdom.

Hence's theory was that only males were produced from the right ovary, and females from the left. But Schachtz quotes the case of a girl who upheld this theory and desired to have a boy badly, and had her left ovary removed. The result was a girl and not what she wanted. This may be explained by the fact that the mother, having lost one ovary and being debilitated by the effects of the operation, was both physically and sexually inferior to her husband.

Thury's theory deals with the maturity of the ovum. He states that an early unripe ovum is produced in a sexually inferior animal and if fertilised, will result in the production of a female organism. Attempts have been made to apply this theory to the human species, the menstruation of women being compared with the rutting of the lower animals. As an ovum is specially developed each month, it follows that this ovum requires a certain part of the month to attain an advanced degree of ripeness. But as we know that the ovum in the human body is only capable of being fertilised soon after it is

produced, the theory falls to the ground.

Recently, the author had a case that seemed to reverse the theory (theory of cross heredity). A woman who had always been in bad health and never seemed to be well, became pregnant. The husband being apparently, perfectly sound and very healthy—he was a famous athlete, the sex of the child should obviously have been that of the mother. To everybody's surprise, a boy was born. However, the theory was upheld by the husband developing an acute appendix six months later. At the operation the organ was found bound down by adhesions indicating occurrence of past attacks. Nature obviously knew the inside of the husband's body much better.

Exception to this rule must obviously occur, but as Nature knows more about people's bodies than we can tell by means of Medicine and Science, as in the case mentioned above, we must assume it must always be right.

Cases appear where the wife appears healthy and so does the husband. In these cases, the balance is so uneven that it is unsafe for mere mortal to predict the sex, but Nature must decide, and the rule which she follows is to replace the weaker of the two at the time of conception.

As it is stated that the balance is cast and the sex determined at the time of conception, it will be assumed that the sex of the child may be decided upon at will. This, of course means, waiting until the one, whose sex it is required to duplicate, is in a state of health below par, or at any rate, below that of the partner. So, the duration of the illness of the partner in question must occur at a

certain period if the sex of the child is to be predicted with certainty. This cannot always be arranged. For, it must be remembered that fertilisation takes place at the time of ovulation, that is, roughly, in the middle of a woman's cycle or between the periods, not as was formerly thought just before or just after a period. To be accurate, conception may occur if intercourse takes place between the 14th and 18th days before the next period. It must be noted that this is not dependent of the past

menstruation, but on a future date, that of the next period. In fact, it seldom occurs as a result of forethought, but it may prove of use where a male heir is essential. Of the case of the old men who marry young wives, this is solved by Nature's rule of replacing the one who must die first. Therefore, we must assume that Nature takes into account persons', age as well as their state of physical health, when determining the sex of a child.— *Abridged from The Medical World.*

## SNAKE-BITE

By

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**T**HE treatment of snake-bite is not uncommon in rural India. As snakes are usually of nocturnal habits, invariably snake-bite cases occur at night, the more so during the first part of the night as men go about generally at that period as well as the serpents which move about for prey after resting the whole day in hiding. The usual story of a snake-bite is that the reptile was either trodded upon or kicked in the darkness by the victim before it bit him. Snakes seldom bite unprovoked except the King Cobra and Mamba snake of Africa which are both denizens of deep forests and rarely met with near human habitations.

There are about 2000 species of snakes in the world of which only 300 species are poisonous. In India and Burma, there are about 330 species of snakes of which about 70 species are poisonous. The very fact that he has been bitten by a snake frightens a man so much that even if the snake happens to be non-poisonous, varying symptoms may follow depending upon the mental make up of the victim. In a strong nerved individual there is no symptom. But

in a nervous individual symptoms of primary shock due to fright set in very quickly. The symptoms are pallid face, shallow breathing, feeble, rapid pulse, almost inaudible heart beat, low blood pressure and cold and clumsy skin. Later, faintness improves. Cases are on record where death due to shock has taken place after the bite of a non-poisonous snake.

The treatment of snake-bite may be of two kinds, local and general.



METHOD OF APPLYING  
 THE LIGATURES.

Local treatment consists of localising the venom by proper ligatures to prevent the passage of venom into the general circulation, neutralising the venom at the bitten area or eliminating the venom from the site of the bite, or

amputation. General treatment consists of neutralising the venom in the general circulation by injection of Antivenene, and combating various symptoms and complications.

The only specific treatment against

snake-bite is the early administration of large quantities of Antivenene by injection. Antivenene is available from the director, Central Reserve Institute, Kasauli (Punjab) at a cost of about Rs. 4/- per ampoule. Each ampoule is dated and after that date there will be loss of potency.

In a snake-infested country like India, lanterns and torches should be used while going out at night. Use of shoes prevents to some extent the chance of snake-bite. It is always unsafe to put hands in dark corners, below wooden logs or rat holes. People should not sleep on the floor of the room but always on Charpoi with a musquito curtain.

It has been estimated that 20,000 people die of snake-bite in India every year. The majority of these is caused by cobra-bite as common cobra is ubiquitous all over India and lives near human habitations. Next to cobra, Russell viper is responsible for a large number of fatal cases. It is also a fact that thousands of people survive every year

after cobra, viper or other poisonous snake-bites because snakes on many an occasion cannot inject a lethal amount of venom either due to defective bite or due to previous expenditure of the venom in killing and digesting a prey or a portion of the venom might have been absorbed in the garment of the victim through which the snake might have bitten. These cases, as well as thousands of bites from non-poisonous snakes, are claimed to be cured by quacks, snake-charmers and "Rojas" with the help of hundreds of indigenous herbs, potions, snuffs, inhalations etc. Mhaskar and Caius of Bombay and Chopra of Calcutta School of Tropical Medicine have tested more than 500 different specimens of indigenous snake-bite remedies to save the lives of experimental animals injected with lethal doses of snake venom. Unfortunately, not a single indigenous remedy has been found to possess any antidotal value against snake venom.— *Abridged form The Indian Medical Journal, July '41, Pp. 168.*

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## ● Topics from Medical and Health Periodicals ●

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### Hygiene—Old and New

“SPONTANEOUS weariness indicates diseases.”

“Those who are constitutionally very fat have less power to resist severe disease than those who are thin.” The modern version is “the fat roll more easily down the hill of life.”

“Old men endure fasting easily, than men of middle age, youths very badly, and worst of all the children, especially those of a liveliness greater than the ordinary.”

“Growing bodies have the most innate heat; they therefore require the most nourishment, and if they have it not they waste. In the aged there is little heat, and therefore they require little fuel, for it would be extinguished by much.”

“Food or drink which is a little less good, but more palatable is to be preferred to such that is better but less palatable”: the modern counterpart of which is “a little of what you fancy does you good.”

“In winter abundant nourishment is wholesome, in summer a more frugal diet.”—E. D. IRVINE, M.D., D.P.H.—*Medical Officer, 24th Dec. 1938. Pp. 271.*

### Diet vs Climate as a Cause of Disease

NOTWITHSTANDING the undoubted influence of climate upon bodily functions, it is nevertheless true that much of the trouble often attributed to climate might be more justly charged to faulty habits of living.....

The Englishman who takes with him to India the meat-eating habits which his colder climate helps him to tolerate after a fashion soon finds himself complaining of the climate if he continues his high protein diet. Whereas, if he follows the biologic bill of fare, discarding meats of all sorts, eating freely of the luscious fruits which abound in tropical regions, he finds the climate both healthful and agreeable.

From East India, a missionary who was home on a year's furlough to recruit his health, and who came under the writer's care many years ago, after a few weeks of instruction and training in the physiologic mode of life, returned to India, having found relief from his ailments by a change of diet, and reported in six months that he had discovered that the climate of India was the most healthful in the world.—“*Good Health*” America.

WRITING under the above heading in the "Medical World" Mar. '41, Dr. A. A. Hill, M.D., complains of the over-eating and over-drinking habits of the Englishmen and especially of the New Zealanders who, he says, eat seven times a day, without the least consideration of the evil effects that ensue in the long run. "Words fail", says he, "to describe the folly of the man or woman who persists in rising from the table to repletion after every meal", and adds later on "The chief medical trouble in this country is constipation." The doctor strongly advocates the use of "an apple a day" to cure the trouble and condemns the use of pills and drugs and the persons who furnish testimonials for these mixtures. He then gives the following suggestions in the form of rules applicable after the age of 50:—

Never take a second helping.

Always leave the table feeling that you could have eaten some more.

Three small meals with a cup of afternoon tea are ample.

The chief meal, if possible, at midday.

Always take a fair quantity of raw-fruit at breakfast.

Pickles and condiments omitted or reduced to a minimum. If your stomach requires stimulating, it does not require food.

The writer then dwells upon the question of alcohol and tobacco. About the former he says: "All intoxicating beverages must be of the nature of sedatives and not, as fondly imagined by the majority of my medical brethren, stimulants. For that reason I have never ordered brandy in the crisis of acute lobar pneumonia. My death rate in this disease has been nothing per cent and the only difference in treatment is the absence of brandy! Regarding tobacco, he says that several serious states of chronic poisoning are seen as a result of using tobacco, and adds, "I was recently interested and amused by the remarks of a Russian priest with whom I have corresponded for several years. I had told him all about our enemas in a letter, and mentioned that almost every one of the audience smoked through the performance. In his reply he stated, "I notice your remarks about cinema smoking, for in Russia, the custom is not permitted, and you will quickly be invited to leave the building, but I think, doctor, that you must be joking, for such a practice would not be permitted in any civilised country." It was a nasty blow for an Englishman, wasn't it?

#### Condy's Fluid

A valuable disinfectant containing two grains of potassium permanganate to an ounce of water. It may be used as a lotion for dressing wounds and as a mouth wash mixed with water.

Doctor:—"Miss Jones, you're badly in need of a little sun and air".

Miss Jones:—"But hadn't I better get married first, Doctor?"

YOUNG infants upto six months do not secrete enough amylase in the intestines to convert starch or poly-saccharides. Very poor young infants fed on starches could hardly survive upto the period when they can manage to utilise them. In fact a great percentage of infant mortality among the poor is due to the infants being fed on starch as the ill-fed mothers have little breast-milk and the cow-milk is too dear beyond their slender means. Hence, a large percentage of infants among them are found to be fed on starchy solution-conjee. The duty of nutritionist is to devise means of providing infant food at cheap cost. The Soya-bean milk, though one such, is not sufficiently satisfactory. There is one more food that I recommend and that is malted starch, which consists mostly of mixtures of various proportions of dextrin and maltose. Feeding with malted starch ought to bring down the infant mortality. The following is the method of malting the cheap South Indian cereal cholam demonstrated by Mr. Nath in 1917:

About two Madras measures of high standard cholam of not more than three months with husk are placed in a bucket which is filled with pure drinking water so that the cholam may remain 6 inches deep from the surface of the water. The glumes and lighter seeds, float on the top after 4 or 5 hrs. Then the heavier and real seeds are drained free from water on a sieve or coarse cloth and aerated by repeated spreading for about half-an-hour. This process is repeated until germination is noticed. This may take about 30 to 40 hours. The grain is spread in a cool dark room for slow germination with occasional sprinkling of water to keep up the growth of radicles to a length of about  $\frac{1}{2}$  to  $\frac{3}{4}$  inch. This takes about 4 to 5 days. Too rapid growth is to be avoided by keeping the temperature low. The seed is then quickly sun-dried for a day or two until it is free from all moisture. The seeds are then fried at about 60 to 70 degrees centigrade to the stage when a fine aroma is noticed and then quickly rubbed on a gunny to remove all radicles. The grain is then sieved and is now ready for grinding in an ordinary country stone mill. The husk is removed by sieving or mill minnemming and the fine powder is ready for use and can be preserved in a clean dry tin that can well be covered. As needed, spoonfuls are made into paste with hot water and then diluted with more hot water as desired. Additional filtration through cloth helps in removing traces of husk or big lumps. Very small quantities of milk give an added flavour and nutrition. Even without milk the food is well relished by infants. Such in brief is the process of making an infant food which even the poorest can follow. This is meant to replace the starch conjee that will completely starve the poor unfortunate infant.—BY G. S. SANKARAN.—The Coimbatore Dt. Medical Association.

Overheard in the Maternity Ward:—"Mother told me that child-birth was no worse than a tooth-ache but I didn't know the roots could go down so far."

CHILDREN differ not only in the speed with which they can learn the material presented in school classes but also in the type of material which meets their needs, Frank L. Beals, Chicago, points out in the March issue of *Hygeia*, *The Health Magazine*.

"Children who are highly endowed do not do the same things more rapidly than children of average intelligence; they do them differently," he says. "Higher intelligence requires an enlarged scope for creativeness; lower intelligence requires an enlarged scope for habit formation."

**Hiccups in Newborn Infants**

THE commonest cause of hiccups in a newborn infant probably is aerophagia (spasmodic swallowing of air followed by belching), *The Journal of the American Medical Association* for April 12, says in answer to an enquiry about the probable cause of frequent hiccuping by a baby 2 weeks old.

Hiccuping consists in a clonic (spasmodic rigidity and relaxation) contraction of the diaphragm, *The Journal* says. It explains that reflex stimuli may be transmitted to a portion of vagus nerve (which controls sensation and motion and is distributed in the larynx, lungs, heart, esophagus, stomach and most of the abdominal organs) and incite the hiccup. Four-fifths of the stimuli which initiate this reflex originate in the stomach.

In a 2-week-old infant who hiccups after each meal the afferent stimuli to this nerve center probably arise in the stomach and are transmitted to the diaphragm through the phrenic nerve. In addition to aerophagia, this reflex may be initiated by too rapid nursing, the ingestion of unduly hot or cold milk or dilatation of the stomach.

If the nursing is interrupted, the *Journal* explains, and the baby held on the shoulder and patted on the back, the belching of air ingested with the milk will probably empty the stomach of a considerable air bubble and will prevent the initiating of the hiccup.—*Texas State Journal of Medicine*.

**Fevers—Chicken Pox or Varicella**

IS an acute infectious disease characterised by a rash which appears on the first day of the illness and consists of vesicles, which later dry and form scabs. The vesicles come out in crops, mostly on the trunk, face and scalp, and only a few on the limbs.

General signs and symptoms are usually slight. Mild cases of Small Pox have often been mistaken for Varicella.

*Treatment*.—Confinement to bed until all the vesicles have become scabs.

Itching may be relieved by sponging the skin with warm 2 per cent. carbolic lotion. If there is much eruption on the scalp the hair should be cut short.—*First Aid*.

*Doctor to a portly patient*.—"And you are to cut out olives, especially those in the bottoms of cock-tail glasses."

THE country of origin of the soya bean is Manchuria; the Chinese have known and used it for more than 5,000 years; but it remained for the Germans in 1940 to project its truly marvellous properties in their astounding "blitzkrings". For it has been stated that part of the success of these lightning attacks is due to the liberal amounts of soy bean in the provisions of the German soldier.

American scientists found that 1 kilogram of soya bean is equivalent in nutritive value to 2½ kilograms of meat or 8 liters of milk or 55 eggs. So that by mixing soya bean flour with the different kinds of food, the Germans have been able to save, as compared with previous figures, 25% in meat, 40% in fatty substances, etc., an economy in foods so important to ultimate victory as bullets and bombs in these times of wars won with blockades.

Convinced of the nutritive value of the soya bean, Germany has been importing and storing about 64,000,000 bushels a year for several years before the actual conflict began. She cultivated immense extensions of her own soil and in Austria and Bessarabia. She devised more than 260 formulas of this alimentary product for use by her soldiers.

Another advantage of the soya bean is that it retains only about 8% moisture while other food products, as meat, bread, milk, cheese etc. contain 65 - 80%. Being much lighter, therefore, than other food products, it can be carried from place to place with utmost rapidity, a decisive advantage in "blitzkring" attacks.

A variety of other products can be prepared from the soya bean as for example, a substitute for steel materials for the preparation of paints, oils, insulators, rubber etc.—*Bulletin of the San Juan De Dios Hospital, Mar.'41, Pp. 176*.

**The Abuse of Purgatives**

V. E. HENDERSON attributes the commonest cause of chronic constipation to the voluntary repression of the peristalsis of the colon, properly a reflex succeeding pressure on the sensitive rectum. Just as the wearer of spectacles and trousers becomes insensitive to their presence, so the rectum loses its natural sensibility, peristalsis grows feebler, the faeces abnormally dry, and chronic constipation results. The habit begins in children who in the daily rush to school after breakfast, neglect the natural and best time for defaecation, while the family doctor when the condition has grown habitual, by his facile prescription of some proprietary nostrum, plays into the hands of drug manufacturers who batter on a constipated population.....The author insists that the best treatment for constipation is the re-education of the reflex and an immediate response to the urge at whatever inconvenience, and recommends an early morning well-diluted saline with prompt response to its urge and agar or paraffin at night.—*Journal of the Canadian Medical Association*.

## How To Purify Your Drinking Water

**W**ATER undertakings throughout the country have taken all possible precautions to enable them to maintain a constant supply of pure water. In spite of this, it is possible that, in places where air raids are severe, the water system may get damaged, and this may result in contamination of the water, or even in a temporary interruption of the supply. Should there be any doubt about the purity of the water supplied to your district, you will be notified.

It is therefore important that you should know in advance what to do, should the water supply become contaminated, or should you find it necessary to use impure or doubtful water from wells, ponds or streams.

Drinking impure water may cause illness. Typhoid fever is one of the diseases most likely to spread in this manner. It is a serious disease, and should it occur the patients would occupy hospital beds which might be urgently required for other purposes.

It is therefore the duty of every citizen to learn to do what the Army already does—to purify impure water so that it will be safe to use for drinking, for preparing foods, and for washing utensils which are to be used for food or drink.

Well; how can you do this?

It is really quite a simple matter. Firstly, you can boil the water, and then it will be quite safe to use. But supposing you can't boil the water because the gas and electricity services have also been damaged, then there is another safe, quite harmless and simple method which you can use. It is used by the Army.

Keep in your house a bottle of chlorinated soda solution. Your chemist can supply you with it. *Milton* or *Chlor-San* will do as well. These materials are cheap and can be obtained from all chemists.

Now, to purify your water if you can't boil it, add 10 drops of chlorine disinfectant to one pint of water. (Remember that a household tumbler holds  $\frac{1}{2}$  pt.). Stir or shake and allow to stand for not less than 5 min. Then add a crystal of hypo and stir until the hypo is dissolved. The water is then safe to drink. But remember this—after purifying the water whether by boiling or by chlorine, keep it in a clean receptacle until required for use.

For washing utensils and foods which are to be eaten uncooked, such as salads and fruits, you will require to purify a larger quantity of water, and this may be done in a clean bucket. The ordinary bucket holds about 2 gal. of water. To purify a bucketful add two teaspoonfuls of the chlorine disinfectant and stir thoroughly. After standing for 5 min. or longer, add two or three crystals of hypo. The same method may be used for purifying water in large containers, provided the disinfectant is added in the proportion of not less than one teaspoonful to a gallon of water, followed after the necessary 5 min. interval by sufficient hypo to remove the taste of chlorine.

The disinfectants I have mentioned have been chosen because they all contain chlorine, which, although it gives an unpleasant taste to the water, is quite harmless. The hypo is added only to remove the taste of the chlorine. If you add too much chlorine or hypo it doesn't matter; if too little hypo is used you will still taste the chlorine, and if you don't like it add another crystal of hypo. You must, however remember to add the chlorine before the hypo.

The reason why you must not use disinfectant other than chlorine for the purification of water supplies, unless they are recommended for this purpose by a qualified chemist is that many of them contain substances which are harmful, or which make the water taste unpleasantly.—*Safety News—July '41*

## Dandruff, or Scaly Scalp

**T**HIS is a condition in which faulty feeding has caused either over or under-secretion of the sebaceous glands and provided a suitable breeding ground for the organisms usually found associated with scaly disease of the scalp. The first step to be taken in bringing about a cure of this condition is by ensuring an adequate supply of minerals in the diet, exercising by brushing and by massaging the scalp which also helps to express the surplus secretions and remove some of the scales. The final elimination of the infection can only be achieved by a scrupulous cleanliness. The scalp should be carefully washed twice or thrice a week with a good vegetable soap or coccoanut oil shampoo. The hair should be parted and sharp narrow brush used to apply the shampoo. It is of the utmost importance that the scalp is cleansed and washed thoroughly after use. Attention along these lines will clear up the most obstinate cases of dandruff.—T. H. BARKAR, M. Ph. S.—*Health for All*.

## Success

“**R**EAL success in life is far away from the mere matter of making money. Some of the richest men I have ever known have been some of the greatest failures in life. Their riches have brought them misery instead of joy. Success in life is the possession of the ability to appreciate the higher thing in living. Most of the really worthwhile things cost the least. Friendship, love of one's fellow man, love of Nature, love of art, and love of music are among them.

“Many people make themselves miserable because they think that they have not as much money as they should have. Really, the ideal state is the possession of a small income—enough, so that one is always in need of something, and which thus develops the spirit to work a cheque for anything in the world. The joy of life fades into monotony. The joy of existence is in growing, developing, working, learning to understand and to appreciate the good and the fine in everything”.—CHARLES M. SCAWAB.

## Effect of Exercises in the Female

ACCORDING to E. Vogt, gymnastic exercises and engagement in sport have in general a very favourable effect on the Physiology of the female. Adaptation of the type of exercise to the constitutional type is sometimes called for—for example, before the completion of growth gymnastic exercise in the musculathletic type may lead to excessive shoulder development with angular outlines and a close approximation to the virile type gymnastics are less to be recommended than swimming, which can be done at any age and strengthens the muscles of the belly and pelvic floor. During the first menstrual epochs no strenuous exercise should be attempted; after menstruation has been established non-competitive sports and exercise with the exception of swimming, may be allowed during menstruation. Women accustomed to sports may practise them during the first six or seven months of pregnancy at least, but during the first month they should observe special care at the times at which menses would otherwise have been expected. The course of pregnancy, labour and the puerperium is in general more favourable in those accustomed to exercises. Suitable gymnastic exercises in the puerperium are very valuable. After the menopause exercises stimulate metabolism and prevent obesity.—(E.M.J.)

## Humorous Tonics

*Applied Psychology*:—The following story is told of the famous French doctor, Lemaitre. It was during the war and he was treating wounded soldiers. One night he was examining a very badly wounded soldier who was to be operated on immediately. The patient was in the exhaustion stage of hæmorrhage, deathly pale, his eyes lustreless, his hands icy, his pulse running 180 and hardly perceptible. To the utter surprise of his young assistant, Lemaitre after feeling the patient's pulse, roughly threw aside his hand, and fell into a terrible rage calling the poor suffering man coward in every term of the French language of abuse. The astounded assistant walked away with Lemaitre. When they were out of hearing, Lemaitre said: Go back and feel his pulse and report to me. The assistant found that the patient had half risen on his elbow and was shaking his fist in the direction of the surgeon. The pulse rate was 120 per minute. When he heard this report, he had the patient brought and operated on him successfully.

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*From the Doctor's Practice*:—A young negro woman came to a Doctor's Office for a prenatal examination. As the doctor was taking her history, the following conversation took place:—

Doctor:—How long have you been married?

Patient:—I'se not married.

Doctor:—Who is the father of your child?

Patient:—Doctuh! it doan have a father, it's a volunteer child!—*Ars Medici, July '37.*

## Book Reviews

**The Broach Sanitary Association—27th Annual Report.**—Such work as is being done by the above Association is always welcome in any part of the world, the more so in India. The most important of its activities is Health Propaganda, and it is gratifying to note that a major portion of the Association funds is spent on it. All other activities *viz.*, Child-Welfare, Ambulance and Establishment of Centres for the use of Nursing articles etc. are equally indispensable. But though the Annual Report, now under review is the 27th of its kind, no statistics of any local progress are given. For, if there is practically no progress in the standard of the general health of the people, and if there is no means to ascertain its progress or deterioration, it is questionable whether the Association should continue its usual activities. While, therefore, welcoming its 27th Annual Report, we wish to suggest that an account of the tangible results achieved may also find a place in the next Report. For we daresay, the results certainly cannot be bad and we feel that such Associations are absolutely necessary everywhere in India.

## Besant National Girls' School, Mangalore—Report for 1940-41

—Only such schools, as the above, can answer the growing needs of female education. We are glad to hear that Form IV has been opened recently, and we hope it will soon develop into a full High School. It is seen from the Report that the school authorities are taking extraordinary interest to maintain it in an absolutely neat and tidy atmosphere. It is so gratifying that Hindi also is taught and the medium of instruction is Kannada, the mother tongue of the district. It may however be suggested that Sanskrit too may be made an optional subject, at least from the IV Form onwards.

## The Life Natural—Vol. 1 No. 1, April 1941.

Edited by Sarma K. Lakshman and published by L. Ganesa Sarma, Pudukkottai. Annual Subscription: Rs 1-3/- Single copy: As. 4/-

This English bimonthly medical journal stands for Nature-cure of all diseases. Nature-cure, as explained in the simple, short and point-blank editorial, is both preventive as well as curative. All diseases originate from bad conduct and so, may be cured as well as prevented by good conduct. Goodness or badness of conduct depends upon the obedience or disobedience to the Law of Life. In these days of confusion and competition, it is really refreshing, to see stress being laid on conduct rather than on medicine that is ever under investigation and never within easy reach of the suffering masses. There is much said about drugs in this issue in the form of a dialogue quoting authorities of Vedanta. The conclusion finally encouraged is renouncement of drugs for they are themselves foreign matter, since foreign matter should be 'eliminated' in order to keep the body free from diseases. We wish this journal all success and our well wishes are with it.

# Home Remedies

## Cold in the Head

USUALLY begins with a sense of fullness in the nostrils, dull frontal headache and feverishness, shivering and sneezing. This is soon followed by running from the nose and eyes.

*Treatment*:—Go to bed after hot foot bath. Encourage the action of the skin by hot drinks and plenty of blankets. If not better send for the doctor.

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## Colic

**STOMACH-ACHE**, twisting pain about the navel coming on in fits relieved by pressure for sometimes, associated with tenderness. The bowels are usually constipated and vomiting is often present. The usual causes are indigestion or ill-cooked articles of food; unripe fruit, shell-fish, salt meat. Menstruation sometimes comes on with colicky pain.

*Treatment*:—Relieve the pain. Give carminative mixture. Sometimes an emetic is efficacious followed by drafts of hot water. Hot fomentation to the abdomen often subdues the pain. If this does not give relief, send for the doctor.

\* \* \*

## Coma

IS a state of insensibility from which the person cannot be roused. The breathing is often weak and snoring, the pulse full and regular, and face flushed. This is a dangerous sign. Apply ice to the head. Send for the doctor at once.

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## Constipation

**CASTIVENESS** or confinement of the bowels a condition in which they are relieved incompletely or not often enough. There should be, as a rule, a full action of the bowels once in every 24 hours, failing this, the health has had to suffer. Headache, giddiness and drowsiness are present in the day time. Sleep at night is unrefreshing, the oppression becomes shallow. Dark lines appear under the eyes, the tongue becomes coated, breath, foul and digestion imperfect. Evacuation is painful, difficult and perhaps attended with bleeding. Piles, fissure or ulceration of the bowels may result from neglected constipation. Poorness of blood is a common result. The causes are debility, liver disorders, insufficient exercise, errors of diet, over-fatigue or merely disregard of the calls of Nature.

*Prevention*:—Make a point of regularly paying a visit to the closet at about the same hour everyday. A reasonable amount of brisk walking exercise is necessary. Most people require at least 3 miles of walking per day.

*Diet*:—Milk, eggs, rice and other starchy foods must be used very sparingly. If you are in the habit of using bread use brown bread. Take more of green vegetables, prunes

figs and other fruits. A tumblerful of cold water on rising often assists. To relieve constipation strong purgatives should never be used as they often provoke a reaction thus causing the very evil that were intended to be cured. If these remedies fail, consult a doctor.

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## Consumption

IT is a disease of the lungs. The symptoms are persistent cough, either dry or attended with spitting of phlegm or of blood, Shortness of breath, pains in the chest, or shoulder, loss of flesh and strength, tendency to feverish attacks, copious perspiration in the early morning, these signs you must not neglect. Consult a doctor at once.

*Prevention*:—A child born of a consumptive mother should not be nursed by her. When there is tendency in the family for consumption, all coughs and cold should be promptly attended to and great care being taken during attacks of infectious fevers. Liberal diet but easily digested food must be taken. Plenty of fat in the form of cream, butter or cod-liver oil should be given. Residence on a dry, well-drained, sandy or gravel soil is important; if possible in the country or at the seaside, away from rivers, ponds or swamps. Any occupation involving exposure to dust should be avoided. Rooms must be well ventilated. Open air exercise should be taken.

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## Convulsions

**CONVULSIONS** are found in all ages but are especially common in early childhood and infancy. The common causes in infants are, improper food, intestinal worms, teething and high fever.

*Symptoms*:—In infants an attack of convulsions is often preceded by twitchings and startings at night. An attack of convulsion in a child presents spasmodic contraction of the arms and legs which are suddenly rendered tense and hard and drawn upwards and upwards towards the body. The eyes are turned up under the eye lids. The mouth screwed to one side while the teeth grate, the lips pitch and froth appears at the mouth. Head and neck is drawn backwards or to one side. During the fit the urine and faeces may be discharged involuntarily.

*Treatment*:—Undress quickly. Prepare warm bath, put the feet only into the bath and gradually dip the child in the warm bath up to the neck and apply a towel dipped in the cold or iced water to the head. If the bowels are loaded insert a piece of soap cut in the shape of a small pencil, into the rectum which will produce motion. Do not wait a moment longer. Send for the doctor.

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## Diabetes

A **DISEASE** in which there is an increased discharge of urine containing sugar. There are also in diabetes, loss of flesh, great thirst, dryness of the skin, irritation of any parts with which the urine comes in contact. There is a great tendency to formation of boils and carbuncles. Consult a doctor at once.