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Editorial

The Hygienic Back-Ground of the Caste-System in India

THE much-maligned and much abused caste system in India is a very ancient institution, having for its object, the hygienic, economic, moral and spiritual advancement of the people, ultimately leading to the goal of human existence viz. good health, prosperity, longevity and lastly, attainment of Godhead. The ancient Hindus gave it a religious colouring, as is their wont, so that the ignorant masses may be induced to implicitly obey and not to question the why and the wherefore of the dogmas, which might result in differences and neglect and consequent disruption and dissolution of the society. The caste-system is not confined to India alone nor is it the peculiar invention of the Hindu brain. Other ancient nations too had

their own caste systems—whether they were copied from India or they originated in their own country it is difficult to say—and called them by various names. The caste-system of the Jews was known as Tsedaka, that of the Greeks as Dike, of the Romans as Fas and of the Chinese as Teh. Even in modern times, the Society in every part of the world is divided into four divisions (*viz.*) (1) labour classes, (2) middle classes, (3) higher classes consisting of Government Officials and (4) business magnates. In Soviet Russia, four classes are officially recognized *i.e.* intellectual workers, soldiers, peasants, and manual workers, which strangely enough correspond to the four-fold divisions of the Hindu Society, Brahma, Kshatriya, Vaisya,

Sudra. In India, during the Mughal period, the four-fold divisions of society have been recognized and the celebrated Abul Fazal, wrote thus, in his Aini Akbari:—

“By means of the warmth of the ray of unanimity and concord, a multitude of people become fused into one body and the people of the world may be divided into four classes. 1. *Warriors*, who in the political body have the nature of fire. Their flames directed by understanding consumes the straw and rubbish of rebellion, and strife but kindle also the lamp of rest in this world of disturbances. 2. *Artificers and merchants*, who hold the place of air. From their labours and travels, God's gifts become universal and the breeze of contentment nourishes the rose-tree of life. 3. *The learned*, such as the philosopher, the physician, the arithmetician, the geometrician, the astronomer, who resemble water. From their pen and their wisdom, a river rises in the drought of the world and the garden of the creation receives from their irrigating powers a peculiar freshness. 4. *Husbandmen and Labourers* who may be compared to earth. By their exertions, the staple of life is brought to perfection and strength and happiness flow from their work. It is, therefore, obligatory for a king to put each of these in its proper place and by uniting personal ability with a due respect for others, to cause the world to flourish.—The grand political body maintains its equilibrium by the above four ranks of men!” These divisions resemble again the four-fold divisions of Hindu society, Kshatriya, Vajsa, Brahma, Sudra respectively.

Picturesque as the above description is, even more picturesque and

vivid is the description given by Dr. Gultherus. H. Mees, M.A., Ph. D. in his able and admirable lecture recently delivered under the auspices of the Government Victoria College Union Palghat, under the caption, “India and the Fundamental Social Relations” and reported in “The Scholar,” to which we are indebted for the extracts and information herein given. Dr. G. H. Mees says:—

“The human community may be compared to a human body. Every class represents a particular organ or member of this body and every individual represents a cell in an organ. Every cell does its duty and contributes to the well-being of the whole body. If one cell gets diseased, there comes a boil on the body which causes pain to the organ and to the person. If one organ begins to lose contact with the whole and works exclusively for its own benefit, forgetting the well-being of the whole, it becomes a cancerous tumour, endangering the life of the whole. At various times in the world's history some class of persons became such a cancerous tumour, endangering the continuation of culture. Whether it is a ruling class which begins to exploit the other classes, or a class of labourers it is equally wrong; for a healthy and normal society consists of all four classes, working in healthy co-operation and carefully keeping only to their own province of social contribution. One cannot think with one's toes or speak with one's shoulders.

Socially, there is the hierarchy of the four varnas, and if we consider the composition of society, we get a vertical picture as well as if we look at a human body. This means that there will be always social differences, and

an ideal of human equality is socially impossible. Social equality is as impossible as a body in which every organ is a stomach or every organ a brain".

Now, with regard to the caste system in India, Manu had assigned definite duties for each caste thus:—

(1) "For Brahmins, he ordered teaching, study, sacrifice and sacrificing (as priests) for others, also giving and receiving gifts.—Manu Lec. I. 88.

(2) "Defence of the people, giving (alms), sacrifice, also study and absence of attachment to objects of sense, in short, for a Kshatriya—Lec. No. I. 89.

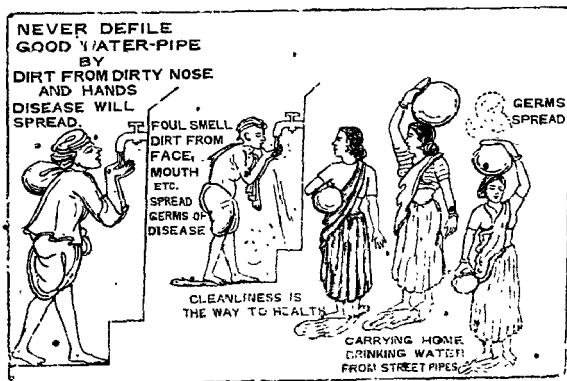
(3) Tending of cattle, giving (alms), sacrifice, study, trade, usury, and also agriculture for a Vaisya—Lec. No. I. 90.

(4) One duty, the Lord assigned to a Sudra—service to those (before mentioned) classes without grudging—Lec. No. I. 91.

• While the caste-systems of all other nations of the world ancient or modern, deal with only the moral and material aspects, that of the Hindus deals, in addition to these, with hygienic and

spiritual aspects. Thus, the caste system of the Hindus is all-embracing. Take for instance, the disposal of the dead. It is ordained amongst the Hindus that not only those who are the relatives of the deceased but also the residents in the very street where the death occurs, whatever be their caste or sect, should not touch food or drink till they see the funeral procession march off to the cremation ground, an effective measure that ensures promptitude more than a waggon-load of general laws, municipal vigilance or punishments. These friends and relatives, must cook and take their food only after a bath, for it is likely that they may have visited the sick patient's house just before death and may have exposed themselves to risk of infection. The bodily purity, that the system of caste constantly aimed at maintaining, was sanitary purity in its bacterial sense. Isolation and segregation are the underlying sanitary ideals in the caste-system of the Hindus. As observed in 'Health London, so long ago as 1928, "It would indeed be difficult for the sanitarian of to-day to lay down a better series of

rules for the hygienic guidance of public and private life than those originally formulated by Manu. There is direct justification, for example, for the direction that clods of earth shall not be torn with the nails in a country where ankylostomiasis is easily acquired from the earth. And the



Never defile Good-Water Pipe.

numerous directions as regards purity of water are equally pertinent to the prevention of water borne diseases. The hygiene of Moses has often been extolled. That of the caste-system is little, if at all, inferior."

We can multiply instances but space forbids us from so doing. If

only people view the caste-system in its proper perspective, i.e., as a medium of rendering mutual service, so that people may live a healthy, happy, prosperous and peaceful life, then much of the bitterness against it will vanish and it will prove a real blessing indeed.

HEALTHFUL LIVING

To obtain clear ideas on the subject of general health, it is necessary to realise two very obvious, but frequently overlooked facts. The first is that, whatever his intellectual and moral development may be, Man is essentially an animal primarily adapted to certain surroundings and conditions, the other is that the needs of civilisation have imposed upon him the need for certain modifications of these conditions or surroundings. So, the question we have to consider is: How far and in what manner can such modifications be effected without impairing his "animal powers" that is, his physiological or animal efficiency?

Man was originally a semi-naked animal, and obtained his food by hunting or tilling the soil. These were the conditions he was originally adapted to. And in the passage of time, he became more and more "civilised", that is, he began to wear more clothes, live in houses and in groups or clans, and obtained his food more by the use of his brain than by the sweat of his brow. This changed mode of living ought, logically to have caused corresponding changes in his habits.

Certain changes have, doubtless,

By Dr. L. Seshadrinathan, M.B.,B.S.,

Coimbatore

occurred; but they have been governed for the most part by false ideas of pleasure or dictates of fashion rather than by those suited to a healthy result. Man was essentially intended to be a working animal. Health of the body depends upon the functioning of every single cell of the body, and, what is true of the part is necessarily true of the whole. The man who does not work is never a healthy one—at any rate he is not healthy for long. The normal individual needs outlets for his energies and if he does not obtain them, they become diverted in improper channels. The majority of alcoholics, hypochondriacs and neurotics are really people who have nothing worth doing.

To be healthy then, Man should work. It is, of course, not an easy matter to compel a person to work which has no financial incentive. There must be enough work for both body and mind, and a judicious combination of both will result in a healthy body and a healthy mind. When a person's occupation or profession leaves him a lot of leisure, he must select a suitable hobby that will keep

his mind off his regular vocation, which, while giving him physical exercise, must relax his mind.

Whether or not Nature intended Man to be a naked animal is a subject of controversy. Clothing is with us, and has come to stay. At the outset, one may say without fear of exaggeration that most of us are over-clothed.

Let us consider for a moment how clothing affects the functions of the skin. We all know that the skin contracts to cold and relaxes to warmth. This power, like all other vital powers, is dependent for its integrity on its proper exercise. Here, as elsewhere, use gives rise to increase of function, and disuse to atrophy or loss of function, and abuse to diseased function. It thus becomes obvious that the amount of clothing should be so regulated as not to interfere with the proper functioning of the skin, but to afford every reasonable opportunity for its proper exercise.

The right amount of clothing for a healthy person is that which, while being sufficient to protect the body from the harmful exposure to changes of temperature, must afford the circulating blood to maintain a healthy equilibrium. In other words, the proper and ideal amount of clothing for a healthy person is the minimum which will protect its wearer from undue variations in temperature. We are all of us grossly overclothed especi-



*Dress—Suited and Unsited
for the Tropics.*

ally in a tropical climate like ours. These arguments against overclothing are of special importance, especially in the case of children. Overclothing in children definitely arrests their healthy development by cutting out the beneficial rays of the sun. If we had followed this rule, there would have been much less of that dreadful, wasting disease of children known as Rickets. Having mentioned the quantity of clothing to be used, a word must be said about the quality and kind. This, of course, is a matter of taste and economy. In South India, where we have an equable climate there is practically no need for wool. Silk and cotton are the best for our purposes, as they allow of free ventilation to the skin. Constriction of the waist, chest and neck should be avoided as thereby we constrict vital organs of the body.

A word in passing on the necessity for baths: everyone would agree as to the necessity for these. It is best to have a bath everyday, and in a climate like South India's, cold baths are more conducive to a healthy life and are also economical.

Pure air to breathe, and plenty of it, is the *sine-qua-non* of a healthy life. The diseases that can be attributed to breathing foul and contaminated air are numerous. The more fresh air we breathe, the better would we be able to resist the attack of disease.

carrying germs which are ever present around us. Sleeping in verandahs or in rooms with wide-open windows and ventilators, must be encouraged from a young age, and the stupid theory that open windows produce chills and colds must be definitely ruled out. To sit by an open window is regarded by many people who are otherwise sane and reasonable, as the most unwise and dangerous procedure, not because it is unpleasant but because it is calculated to lead to dangerous chills and colds! There is absolutely no justification for this view. We have to choose between a draught that is salutary and stagnant air which is deadly. Take for example, the open-air treatment of Tuberculosis and other lung diseases. It has been proved by experience that currents of air are not injurious. The very success of the open-air treatment is the proof of the absurdity of the "chill theory". If there were any truth in the "chill theory", the tuberculous patients who are already very debilitated, should die off like rats when placed in a free atmosphere. Not only do they continue to live, but they increase in vigour and weight, and the disease becomes arrested. So, let us use God's fresh air through open doors and open windows and open spaces.

The value and importance of sunshine was referred to a while ago. We have enough of it and to spare in our country, but do we utilise it to our benefit? We live in dark, ill-ventilated houses. To make matters worse, we clothe ourselves too much not knowing the beneficial effect of the sun's rays on the bare skin.

Hunger is the first instinct in any animal, and man is no less an animal

than an amoeba. This brings us to the question of diet. Food is taken to restore wear and tear in the body cells, to promote growth, and to guard our body against infections of all kinds. An unsuitable diet exhausts our energies, thereby exposing us to attacks of disease. It is impossible to discuss a correct and well-balanced diet within the scope of this article. But, it would be sufficient to say that food reform is necessary if we are to progress as a nation and wish to have the future generations stronger than ours. The chief lack in our diet is what are known as Vitamins. These are accessory food factors, which, by their presence, help the growth of the body and prevent infections of many kinds. In days gone by, man lived on natural, uncooked foods. But, as he progressed, he learnt to cook his food. Of course, we would all admit that cooking is necessary. Cooking is an art, which, gaining on us gradually through the ages, has long since reached the point of overwhelming us. It is no longer our servant, it is our tyrannical master. It might perhaps be an exaggeration to say that cooked foods like alcoholic drinks, tobacco etc., should be classed among luxuries. Our real food stuffs are those which Nature in her plenty has provided.—dairy products, fruits, vegetables. These should constitute the foundation of our dietetic edifice, our altar, to which the individual may offer up any burnt sacrifice of sheep, birds, fishes or vegetables as fashion or taste or custom may dictate. Fresh and raw food rich in vitamins must therefore be consumed more than cooked food.

Cooked food is of course stimulating. But this stimulation invites excess. The appetite which comes with eating,

comes with the eating of cooked foods only. We cannot over-eat ourselves with raw food. The sin of surfeit is usually the result of need not of greed. Need of what? Of Vitamins! We have almost killed off the vitamins by cooking, and Nature in attempting to get her quota of vitamins ingests a whole hefty hay-stack in order to be sure of the necessary needle!

We live by what we digest, not by what we eat, though many of us digest more than what our bodies require, and thus exhaust ourselves. We can exhaust ourselves through our digestion more easily than through our muscles or mind. The persistent over-feeding which is today the practice among the majority of us is the cause of the chronic poisoning which is responsible for the premature aging and the increasing mortality rate.

We are all bound up by custom and convention, and these must be broken at least wherever necessary. And, it is in food reform that we are up against a veritable wall! We have to face the determined opposition of our womenfolk even when we suggest something very small by way of varying our daily menu. All women have an instinctive tendency to "feed the brute" It is therefore necessary to educate the women, raise their powers

of perception, increase their field of vision, so that they, as the mothers of the future generations may willingly take the lead in reforms—specially Food Reform.

Custom and convention have fortunately introduced periodic fasts under religious guises to counterbalance the over-eating that has been going on. But, what do we do on such occasions? We call it fasting, but indulge in *Many Foods* (பல ஆணாரம்) instead of *Fruit Diet* (பல ஆணாரம்)! Fasting is the best way to change from one kind of food to another. Fasting once a week or once a fortnight is very good. Have'nt we a saying with us that fasting is the panacea for all ills—
வங்கணம் பரம ஓஷதம்?

We cannot close without mentioning Coffee and Tea. These are mild stimulants when taken in moderation, but are poisons in excess. Moderation must be the rule, if we cannot avoid them altogether.

A review of the above article would result in arriving at a suitable formula for a healthy life, a life which one should feel pleasant to live. I cannot conclude this article without quoting a wellknown saying of an unknown author:—

"Is life worth living?"

That depends on the liver!"

There is one point in which all men might be born free and equal. That is in regard to health. If a child has clean blood, a good brain and a mother who knows how to care for herself and for him, he is equal to any other child on the face of the earth.—Roosevelt.

Medical Inspection of School Children

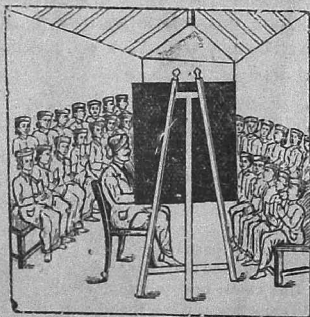
By Dr. Parma Nand Ahuja, M.R., B.S.,

Karachi

'CHILD is the father of the man' is true in more respects than one. The physical defects or deformities or constitutional infirmities that the grown up man may reveal, can very often be traced to the early period of childhood when, through lack of proper care, or attention on the part of the parents or teachers, at the school going age, they were not noticed at all or if cursorily noticed, no steps were taken to remedy the same. The child has grown into man with those defects or disabilities ingrained in the constitution which the stress and strain of later day life have only succeeded in forcing into prominence.

Seed sown in Childhood

In my last article on "Nutrition of the Nation" which appeared in the October issue of 'Health', I had an occasion to observe that medical



Open Air School Movement.

Inspection of school children reveals that a large percentage of them suffer from malnutrition and its consequent

ill effects. Such weak striplings cannot be expected to attain vigorous growth and development unless and until this sorry state of things is changed for the better at the very start. This can only be possible if those who are concerned with early years of childhood at home or at school, take pains and organise systematic inspection of these children to detect their defects and disabilities. Common diseases like rickets, dental caries, bone diseases, lung and liver troubles, affection of eyes, glands etc. which commonly affect children and sow the seeds of future ailments and constitutional weakness can easily be detected and more readily and economically nipped in the bud.

Deplorable Dearth of School Medical Service

There is a deplorable dearth of School Medical Service even in otherwise well organised educational institutions, private or Government or managed by local bodies of premier importance. Even a first rate Municipal body like that of Karachi, which can otherwise legitimately pride itself on efficient Municipal Administration and has about 15 thousand boys and girls in its own schools besides a large number in Municipal-aided Schools cannot lay claim to any School Medical Service worth the name. Under the provisions of the Primary Education Code, I believe, School Boards are required to maintain a record of Medical Inspection of children under their care. Haphazard efforts have been made in

that direction and some semblance of inspection is carried out in some schools. But the whole plan is poor in conception and puerile in execution. Such half-hearted measures cannot serve any useful purpose and involve sheer waste of public purse.

Efficient School Medical Service Needed

A systematic and well-organised efficient School Medical Service must be arranged by the educational authorities in all Municipal, Local Board, Private or Government institutions as much in the interest of the teachers as of the taught. "An ounce of prevention is worth a ton of cure" should be the guiding motto of all concerned.

The essential prerequisites in any scheme of School Medical Service is the frequent contact and close co-operation among the medical and educational authorities and the parents guardians of the wards, under their care. Earnest endeavours assiduously pursued to their logical ends, in not only detecting the defects and disease tendencies but in ameliorating or

removing the same under general or special medical aid and supervision can alone achieve the desired object and be productive of lasting good in building up healthy generation of children. The inspection should be more frequent at least twice a year and the teaching staff should not be spared under any circumstances. It must also include health propaganda and health talks, on home and personal hygiene etc., in simple, non-technical language, aided by charts, demonstrations, object lessons, magic lantern shows etc., to which the parents of children can be advantageously invited at times.

An efficient School Medical Service on the lines suggested, is as much necessary as, if not more, than an efficient teaching staff. The money should be ungrudgingly spared as it is bound to yield ample dividends in healthier days and more economic ways for school study and better vigour and vitality in the growing children—the nation in bud.

Hygiene of the Skin

EVERY one knows that there are two lungs in the human body. But very few are cognisant of the fact that there is a third lung which is the skin which envelopes the human frame. The skin is one of the most important of the excretory organs, the function of which is to get rid of the toxic products which are being formed in the laboratory of the body within the twenty four hours of day and night. Through the countless minute pores into which the surface of the skin is

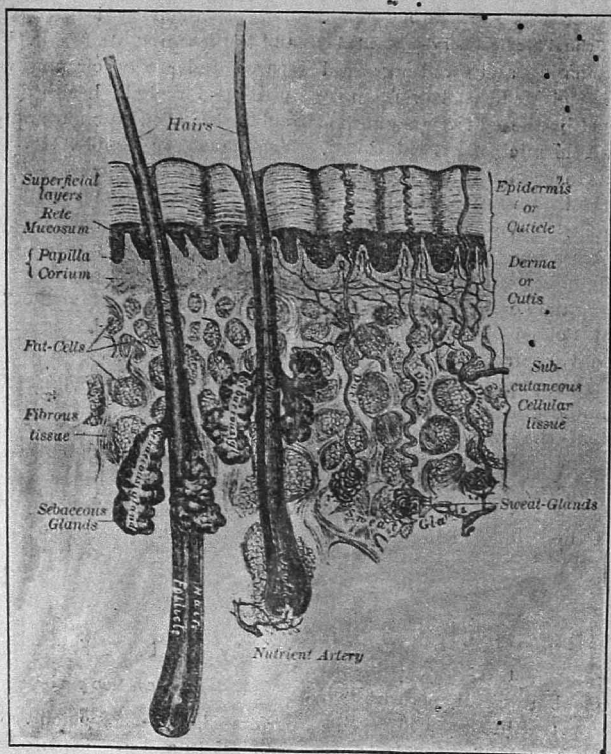
—By Dr. L. R. Fernandez,—

Trichinopoly.

perforated, liquids which constitute perspiration and gaseous products are every hour being thrown out. If these obnoxious materials remain too long in the blood, such a stagnation brings on various diseases. So every one ought to pay meticulous attention to the daily functioning of the skin. From the earliest times the necessity of making the skin perform its work properly has been recognised. The Romans and Greeks were very particular about

baths, exercises, and massages. The same may be said of the Swedes and Italians. Even our ancient Indians considered bath so important that they made it as compulsory as any of the daily religious performances.

nated. A vehicle is needed to carry them away. This vehicle is perspiration or sweat. By physical exercise the perspiration cleanses not only the surface of the body but also the internal organs, in carrying out from the



A Magnified Section of the Skin.

From a hygienic point of view, the purpose of the bath is to cleanse the skin and to remove the impurities which obstruct the minute pores on the skin. But cleaning the skin by means of the bath is not all. It is not enough to open the door of escape for these substances which are to be elimi-

nated. A vehicle is needed to carry them away. This vehicle is perspiration or sweat. By physical exercise the perspiration cleanses not only the surface of the body but also the internal organs, in carrying out from the

blood-stream the residues of the molecular changes, the impure wastes of nutrition, against the bad odour from which the most powerful soaps will not save the elegant person who does not perspire. So bear in mind that exercise, until free perspiration is produced, must be taken in order to obtain the true hygienic effects of it.

Hints on "First Aid"

—By Prof. R. C. Motwani, M.S.—

— Professor of Anatomy, —

— Grant Medical College, Bombay. —

During my official duties and un-official work as a medical man, I have gathered a few experiences, which I believe will prove useful to an average educated individual, as regards the first aid to be given in illness or injury, before a doctor is available on the scene.

I Medical Cases.

(1) *High Temperature*:—It often happens that a doctor is not available for a few hours and allowing the temperature to run high is not advisable. As sudden high temperature is seen in malaria and various eruptive and infective fevers, everything is gained by the following measures:—

(a) An ice-bag on the head.

(b) Dipping a towel in cold water and rubbing on the limbs for a few minutes and then drying the part.

(c) If the temperature is still rising, give a pill of Aspirin and Quinine with tea or coffee.

(d) If the individual is not vomiting or has pain in the belly, a dose of castor-oil is helpful.

(2) In case of frequency of stools with or without pain e.g. Diarrhoea or dysentery, I have found Kaolin in oil or "Kaylene-Oil" a proprietary medicine, very helpful. It has both the properties of relieving irritation and preventing absorption of toxins. No food except fruit juice or Glucose to be given.

(3) Pain in chest, abdomen or near any joint. I have found rubbing the part with liniment of Turpentine and

covering the part with cottonwool and bandage, useful. The pain is also considerably relieved by putting a hot-water-bottle near the painful region.

(4) Unconsciousness, if simple, may be relieved by holding a bottle of smelling salts near the nose.

(5) Difficulty in passing urine—Lemon squash soda or orange juice by mouth and fomentation of the bladder region.

(6) Safest thing to give, when patient needs nourishment in serious case is 2 teaspoonsful of Glucose in a cup of water.

II Surgical Cases.

(1) In a family, often children injure themselves by falls, the skin is abraded and it is possible for septic germs to get into the wounds. Apply first a paint of Tr. Iodine. It is better to boil a little cottonwool and a bit of lint with a spoonful of Boric Acid in a small copper pot with lid, over fire for about ten minutes and see that it is boiling. After cleaning one's hands with soap and water and then soaking them in methylated spirit, one should cleanse the surroundings of the wound and the wound itself and cover it with boiled lint with boiled cottonwool after removing excess of water, and then covering with dry cottonwool and bandage. I have also found the use of "Barnal" efficacious in the lacerated cases. It comes in collapsible tubes and can be pressed over the wound direct.

(2) If severe injury has caused loss of function of the limb, a dislocation or a fracture is suspected. In such a case the part may be supported between pillows and ice applied to control swelling.

From the foregoing, it is apparent, that following items should be available in a family to give proper first aid, before the arrival of a doctor.

1. Clinical Thermometer.
2. Ice bag
3. Hot-water bottle
4. Cottonwool. } These should be
5. Lint } stored in a tin box.

6. Castor oil.
7. Aspirin—5 gr. tablets—1 bottle.
8. Quinine Sulphate—4 gr. tablets
1 bottle
9. One small copper pot with lid reserved for this work.
10. Kaylene—oil—1 bottle.
11. Burnal—1 tube (Boots).
12. Liniment of Turpentine—1 bottle.
13. Glucose—D—powder—1 bottle or tin.
14. Boric Acid.
15. Methylated Spirit.
16. 1 bottle—Smelling Salt.

BULK or BEAUTY?

—By C. V. Venkatachalam,—

Member, The Matunga Athletic Club
Bombay.

WHAT are you trying for? Is it for health? If so, then the goal is reached very easily and you can find it very quickly.

But if you are striving for body beauty and an ideal shape then how are you going to know that your dream has borne fruit? The practised eye is the only judge of that elusive quality and tables of measurements—the mile posts on the body-builders' road, are substituted for the eye of the expert.

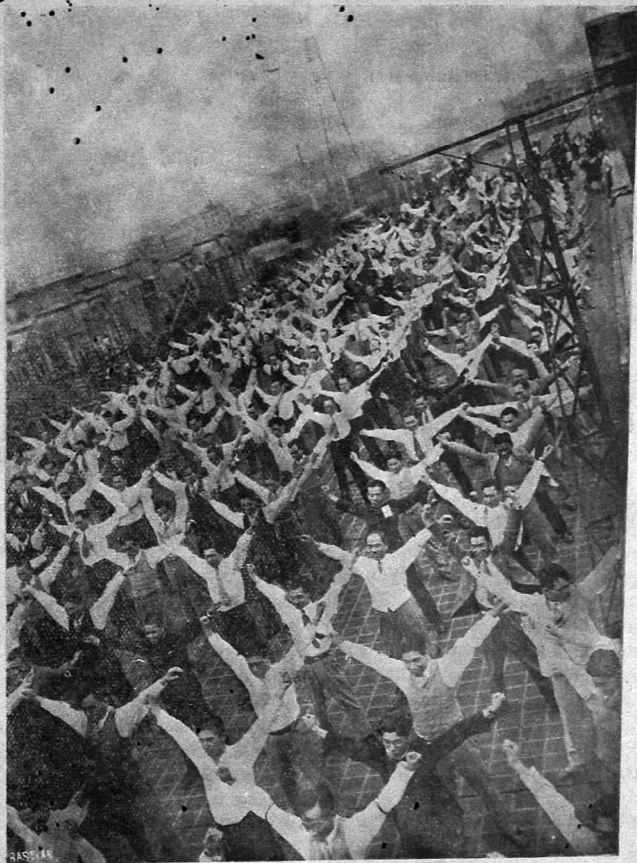
It is impossible to put one's whole faith in tables of measurements as shape is not a matter of measurement. Of course, to some extent they do serve not only as a guide but also as an inspiration to a weak bodied individual or a beginner. Sometimes, why often, a new pupil of Physical Culture is full of hope of attaining the huge proportions of a Sandow,

Charles Atlas or K. V. Iyer. But soon he finds it to be beyond his power to get the measurements of his ideal Physical Culturist. And then naturally he soon begins to think that it is impossible for him to get any benefit out of the strenuous exercises he is practising faithfully and in due course his enthusiasm slackens. "This idea of an enthusiast is quite wrong. As the tamil proverb says "சிறல் வீடுகளை உடலாசிரமம்", it is impossible for a man of a small structure to build a huge body. Everything should have a proportion. It is equally impossible for a man whose height is say about 4' 5" to build up the muscles equal to that of a man of 5' 8". Even if he is to attain those measurements through

some method, instead of giving a graceful and beautiful appearance to him, it would disfigure him very much.

Therefore the main thing which

developed chest with lean and undeveloped knees and calves or 16" of biceps with 35" of chest? The following tables are the body proportions of



Exercises for Health performed by Government Officials and Companies in Japan on the Radio Gymnasium, every morning, with music.

gives beauty and grace and which every Physical Culturist should aim at attaining, is a proportionate body. What is the use of having a big and well

a man with an average sized framework, which will guide the beginner of Physical Culture and help him from not despairing as stated above.

Trunk (based on height).

Chest (normal)...	60 per cent. of height.
Waist	75 per cent. of normal chest
Hips	55 per cent. of height.

Upper arm ... 20 per cent. greater than forearm.

The following illustrates how the trunk measurements work out in 3 men of different heights:—

Legs (based on wrist measurement).

Calf	75 per cent. greater than ankle.
Thigh	50 per cent. greater than calf.

	A	B	C
Height	5' 0"	5' 6"	6' 0"
Chest (normal)	36"	39'6"	43'2"
Waist	27"	29'7"	32'4"
Hips	33"	36'3"	39'6"

Arms (based on wrist measurement)

Forearm	75 per cent. greater than wrist.
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Therefore, dear friends, bulk is nothing. Proportion is everything. Let your ambition be to attain that.

Sanitary Arrangements During Festival

—How Epidemics are Prevented

Introduction

SOME years back it has been usual for epidemics of Cholera to break out during the Mahamakham festival of Kumbakonam, Pushkaram at Rajamundry, Arokiamada festival in Velankanny and Kumbha Mela at Allahabad. But after the inauguration of the public health scheme, we have made rapid strides towards maintaining a healthy atmosphere, as a result of which epidemics are avoided during large collections of people in pilgrim-centres. We shall therefore discuss here below some of the sanitary arrangements which conduce to a healthy condition and consequent contentment among the festival-going population.

Water supply

The first arrangement that arrests a

By G. T. Gopalakrishna Naidu, L.H.P.,

— Asst. Dist. Health Officer, Chittoor. —

sanitarian's attention is the need for good water supply in a festival centre. The advantage of protected water-supply cannot be exaggerated. A festival centre may happen to be on the bank of a river as in Rajamundry or on the sea beach, as in Velankanny. In the former case, the protected water-supply intended for a population of about 50,000 in the town may not be enough for the additional lakh or more of Hindu Pilgrims gathering in one day. Similarly the brackish water available in wells near the sea-shore as in Velankanny, may not be suitable for about 60,000 christian population gathered from all parts of India, Burma, Ceylon, and South Africa

during the ten days of the festival. Hence suitable arrangements have to be planned out well in advance. In one case additional temporary pipe lines, Reservoirs etc., should be laid, and water supplied during all the 24 hours of the day. In the other case, tube or Bore wells driven to a potable water-bearing stratum may be necessary. Our ultimate aim is to supply pure, wholesome water at all hours, wherever a festival is conducted. Water sheds may sometimes have to be put up in strategic corners according to the multitudes gathering in one day or all the days and water supplied night and day. Sufficient propaganda should be so made as to make the pilgrims feel that water is available always and at all hours. Hurricane lights or Petromax lights should be hung up near each watershed.

Tube Wells

A few details about the tube wells referred to in the foregoing paragraph may not be out of place here. Whenever a tube well is sunk in a sandy soil it is always necessary to provide a cement concrete platform around the tube or bore-well, so as to effect free flow of waste water farther away from the tube-well. A petromax light hung on to an adjacent post should always be provided so as to guide people in the nights. Secondly in a place where protected water supply is available for its town population but, not enough for the festival-going pilgrims, it is always preferable to sink bore-wells and lift the water so drawn to over-head tanks from which water is supplied through peripheral taps. Each bore-well should be looked after by a cooly whose main business is to work the pump and fill up the tank whenever it is running dry. Sometimes

temporary pipe lines with taps may have to be put up from the over-head tanks into the very heart of the festival area, so that water may gravitate down into the pipes. I can say with absolute confidence that Bore Wells have come to stay, permanently as a boon to the pilgrims.

Wells

It may so happen that when finance does not permit for sinking bore or tube wells and if there are wells yielding good water-supply, full advantage should be taken of them. Systematic chlorination of the well water should be resorted to: but here a word of caution is necessary. An over dose of perchloron or bleaching powder (half the strength to the former) may impart a disagreeable odour to the water and thus prevent pilgrims, from using it. They may seek any other unchlorinated suspicious source which is near at hand. If a ghastly tank is available, they may use the water which has not been chlorinated. Hence my instructions to my staff were to use only half the dose of perchloron for each well daily and continuously. For instance if a well containing 3000 gallons of water requires an ounce of Perchloron, it has always been seen that only half an ounce answers the best purpose. The minimised dose does not scare away the pilgrims and at the same time it has had its desired effect. Further, each such well should have a cross-bar, pulley, a chain, tied to the cross bar and bucket firmly attached to the chain. This extra precaution is necessary; for it has been a painful experience to see that ropes and buckets if they are not secure, are snatched away. Further, using one bucket is always better than the heterogenous

number brought from various suspicious quarters. Covered cisterns with taps at bottom are filled with water by one or two coolies engaged for drawing water from these wells. Pilgrims need only turn on the tap and take water every time they require. It is important that these coolies should be on their legs by turns even during nights to serve the people. For, during most of our festivals—Hindu, Christian or Muhammadan—people are very busy, generally during nights. Possibly that is the only time when man feels at leisure from his toiling day labour.

Tanks

Sometimes it so happens that there may not be any well at all in the village or town. A tank may be the only source of good drinking water. Hence I have always insisted upon fencing the tank on all sides leaving three feet entrance at one spot through which people get in and take water. The edge of the water to about 6 feet on all sides should be chlorinated every day. If there is a possibility of providing a fence and an over head pulley at this gateway it is certainly very good.

Dug out cask-wells

I have seen in certain places as in

Sabthasthanam festival in Trivedi, Tanjore District, that when there are no good drinking water sources, dug-out springs in dry river beds have answered the purpose in cases tube wells could not be sunk in the river beds under extraordinary circumstances. For this purpose, clean wooden casks of about 3' to 6' height open at both sides are sunk in the sandy stratum. A height of about 3" of the cask projects above the level of the surrounding river bed. A circular collar of cement concrete or granite or burnt bricks may be placed around this projection over the sand so as to slope towards the periphery from the edge of the cask and so that spilt water may be carried away from the edge of the spring. A small bucket attached to a chain well fixed to a neighbouring post may facilitate people to use only this bucket and may thus avoid contamination. Groups of these cask or pot wells may be provided in selected areas and fenced around with a few entrances, and each such fenced area shall have a petromax light for guiding pilgrims all through the night. It is of course necessary to post an energetic watchman to look after these dug-out wells lest they should be contaminated by erring people.

(To be continued.)

FIGHTING MALARIA FROM THE AIR

According to official figures just published, nearly one million fewer men and women suffered from malaria in U. S. S. R. during 1935 than in 1934.

This phenomenal decrease is attributed to the use of aeroplanes for the destruction of larvae of malaria-carrying mosquitoes, and to the widespread adoption of the new Soviet anti-malaria preparation known as, "plasmocide".—*League of Red Cross Societies Monthly Bulletin*.

Shelley against Meat-Eating:—In an essay entitled "Vindication of a Natural Diet," the poet Shelley wrote as follows:—

"It is only by softening and disguising dead flesh by culinary preparation that it is rendered susceptible of mastication or digestion, and that the sight of its bloody juices and raw horror does not excite loathing and disgust," *Good Health*.

* * *

Leeches.—A return is gradually being made to old and tried therapeutic methods, which had fallen into disuse because they were wrongly deemed old-fashioned. The application of leeches is one of these, yet it has proved excellent in acute thrombophlebitis, and has considerably shortened the duration of the illness.

The leeches, as procured from the chemist, are placed in a liquor glass by means of a spoon; the opening of the glass is then applied to the surface of the skin, where it is intended that the leeches shall attach themselves. The skin of this area must first be washed with hot water and moistened with sugar-water. Usually the leeches drop off after 30-90 minutes, having absorbed 8-10 c. cm. of blood. In order to remove them earlier, the application of salt to the leeches or a piece of cottonwool soaked in ether placed near them is effective. The wounds continue to bleed for hours, and a loss of 20-50 c. cm. of blood is finally achieved. The bleeding can, however, be stopped at any desired moment by the application of ferrichloride on cottonwool, or of a stick of nitras argenti—*Boltenberg Hipporkrates*.

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Sea-water baths and sun and air baths at the seaside.—Dr. R. BERTONI

(*Tolmezzo, R.I.T.F.*; August, 1935). The author discusses the proper use and dosage of the various elements of the marine cure. Baths should be taken in the morning when the sun is well up, and the patient must come out at the first sign of shivering (except for the very transitory shiver on entering the water). Sun baths must be graduated in time carefully for a healthy, still more carefully for a sick child, or adult, in the latter cases only partial exposure being allowed on the first day. Blond subjects must be carefully guarded from over-exposure. Air baths out of the sun must last only a few minutes at first. A list of primary indications for thalassotherapy is given, including debility, secondary anæmias, rachitis, cardiac and rheumatic cases only if carefully watched, skin disorders, upper respiratory disorders, tubercular glands,—(*Archives of Medical Hydrology*).

* * *

Greyness.—Like baldness, grey hair is usually a sign of age, but it may occur as a disease also, or as a result of mental anxiety, shock, etc. The colour of hair is due to colouring matter developed from the papillae, from which the hair grows. Any change of colour must begin at the papillae and slowly advance to the tips. Usually the change can be detected. There are no particular remedies, except that measures to stimulate the circulation of the scalp may be undertaken as in the case of baldness.—*Healthy Life*.

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Pineapple as Pyorrhoea Cure.—Canned pineapple may become a powerful ally to doctors and dentists in their fight against pyorrhoea, according to a report by Dr. J. A. Killian, the distinguished American scientist, on the Nutritional Value of Canned Pineapple

which has just been published in the U. S. A.

The report, which is the result of two year's research at the University of Hawaii, has, amongst other things, established canned pineapple as one of the most consistently reliable anti-scorbutics available throughout the seasons. Dr. Hanke, of the University of Chicago, states the report, has found during an intensive study of dental

disease and diet, that many striking cures of pyorrhoea and dental decay have been effected by the consumption of large quantities of antiscorbutics, which are rich in vitamin C. Canned pineapple, it has been established, has as high a vitamin C content as the antiscorbutics used in Dr. Hanke's experiments, and has also a high content of vitamins A, B, D and G.—*Practical Medicine.*

● Book Reviews ● ● ●

The Science of Hypnotism.—By *Alexander Cannon*, M.D., M.A., Ph.D., Ch.B., etc. Published by Messrs Rider & Co., Paternoster House, London, E. C. Price 3/6 net.

Hypnotism, though now a forgotten science, is an invaluable one, as it enables a sufferer to obtain immediate relief from physical pain and anguish and mental worries and disorders and gives him the much-needed rest. Its old sister sciences such as 'christian science' 'faith-healing', 'occultism' etc., have, like hypnotism also a scientific back-ground but they have been relegated to the limbo of oblivion because they came to be practised by untrained and unscrupulous laymen. The writer, a medical man himself, is a successful hypnotist and says that "it (hypnotism) should be employed only under the supervision of a duly qualified and registered medical practitioner, or practised by doctors themselves, as its therapeutic effects are so certain in the relief of symptoms, that grave damage might be done by obscuring those warning symptoms of some serious surgical conditions". A comparison of the different methods of hypnotism including the author's own and a few diagrams illustrative of his

methods are given and the book will surely interest psychiatrists and also general medical practitioners who come into contact, in their daily practice, with innumerable psychic cases which present perplexing problems and prevent proper treatment and speedy cure.

Nature Hits Back.—By *Macpherson Lawrie*, Published by Messrs Methuen & Co., Ltd., 36, Essex Street, London, W. C. Price 5/- net.

This is a very interesting book useful to every man, woman and child in their every day life. As the title itself suggests, transgression of Nature's laws cannot be let off with impunity and must bring on its own reaction. The author attributes human suffering, mostly if not entirely, to fear and nervousness, ill-nutrition and mal-nutrition, want of sufficient sleep, sufficient exercise and quiet environments etc, and these causes, he says, have more to be dreaded than even cancer, consumption or insanity. He detests too much of drugging, deprecates artificial food and denounces birth-control at the very beginning of marriage. The book is written in a lucid style and will certainly repay perusal.

Some Methods in Health Education—

By *M. B. Davies* and *L. Wilkes*.
Published by Messrs. Longmans
Green & Co., Ltd. 39, Paternoster
Row, London, E. C. 4. Price 2/6.

This is a book which will certainly interest those who are engaged in the teaching of Hygiene in schools. The authors consider Hygiene as a misnomer and suggest Health Education as a better name, for one is dealing with "a whole aspect of Education—an aspect that cannot be lost sight of at any stage. Something more than lessons alone are necessary, rather a training throughout life." After describing the aims and values of Health education, the authors proceed to plan the Health Education course for Schools and give the methods and means of gaining health knowledge. The book is profusely illustrated and we strongly commend it to all primary and secondary School-masters who are connected with health-education in schools.

Food values at a Glance.—By *V. G.*

Pimmer, Published by Messrs. Longmans Green & Co., Ltd 39, Paternoster Row, London, E.C. 4. Price 3/6 net.

The root causes of many ills which human flesh is heir to, is now traced to food and nutrition and no wonder, therefore, that a number of books for the use both of the medical profession and the lay public have been produced and published within recent years. In Food and Nutrition, statistics play a very important part and in order that one may know, understand and digest the various constituents of Food, one must learn these statistics, which will only go to make confusion worse confounded. In this little book, the author has successfully attempted to simplify the task by indicating the food values graphically in various colours so that one may see at a glance the nature and value of each food-stuff. At the side of each coloured strip is a vitamin index. The general principles of Nutrition have been sum-

marised to enable the reader to plan individual diets or to cater on a large scale. The book will prove to be of immense use to dietitians, food reformers and health-seekers generally.

Complete Course of Instruction on Body Building.—By *Prof. Christian Paul*, Physical Culture Specialist, Colombo.

This pamphlet gives useful instructions, to those who wish to follow the Professor's system of Physical Culture, regarding Habit, Diet, Bath, Sleep and also the method of performing the exercises, illustrating them in each case. Only 7 exercises are prescribed which seem to be very simple, yet beneficial. Useful hints on heavy weight lifting are also given at the end of the pamphlet. We commend it to our readers.

Education Through Museum.—Author and Publisher *J. C. Basak*, 363, Upper Chitpore Road, Beadon Street, P.O., Calcutta. Price As. 6.

In this pamphlet, the author stresses the need for the institution of Museums for the spread of education, especially in art, craft, agriculture and industry. There is no gainsaying the fact that museums serve their useful end in Education and this sort of education, especially to the illiterate masses, will be a welcome departure from the old and worn-out method of learning through books alone. The educational authorities in India will do well to give this system a trial.

Indigestion and Constipation.—

Published By *J. C. Basak*, address as above. Price Rs. 2.

The publisher is responsible for producing many books on hygiene and this is one of them. This is a book full of useful information on the subject and runs up to 406 pages of printed matter with four diagrams of the abdominal organs in their natural state and in a state of congestion with faecal matter. The book is well worth perusal.

Health Calendar—December 1936

By Mr. N. Rajaram Naidu,

23, Sivaraman St., Triplicane, Madras.

- Tues. 1 Keep sacred thy body even as thy soul.
Wed. 2 Remember how much the passions waste the nervous power.
Thurs. 3 Avoid flies: they poison our food.
Friday 4 Bathe daily—it is healthy.
Sat. 5 When dirt comes in at the window, Health flies out of the door.
Sun. 6 Good health makes life a thrill.
Mon. 7 All work and no play makes Jack a dull boy.
Tues. 8 Wash your mouth well before and after meals.
Wed. 9 What shall it profit a nation if it gains the whole world and loses its own children.
Thurs. 10 Health is found in the great out-doors.
Friday 11 Koch, the discoverer of Tuberculosis germ, was born in 1843.
Sat. 12 Live in the open and prevent Tuberculosis.
Sun. 13 A penny saved in drink, is a pound gained in health.
Mon. 14 Don't study Sickness: study Health.
Tues. 15 Disease is a greater enemy than all human foes.
Wed. 16 *Ramzan*.
Thurs. 17 Thousands break down every year from over-work.
Friday 18 Eat fresh vegetables.
Sat. 19 Fresh air and exercise solve the Health problem.
Sun. 20 Our faults are at the bottom of our pains.
Mon. 21 Exercise plentifully but never over-do it.
Tues. 22 Life is pleasanter in clean cities.
Wed. 23 Don't let your holiday be a slack one.
Thurs. 24 Alcohol causes degeneration of the heart and blood vessels.
Friday 25 *Christmas Day*.
Sat. 26 Good water is the best drink.
Sun. 27 Louis Pasteur, was born in 1822.
Mon. 28 Without health, dreams fade.
Tues. 29 Always laugh when you can: Laughter is a cheap medicine.
Wed. 30 Health means happiness: Disease means misery.
Thurs. 31 Remember that reading and talking only will do no good.

—YOU MUST ACT.