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EDITORIAL

Hygiene, Inter-Dining and Inter-Marriage

COMMUNION is the mother of civilization and disease as well. While the one is always welcome, the other is never; and so, while we should be ready to learn anything good from a stranger, we should, at the same time, take all precautions againts infection. Therefore, the higher a good civilization rises, the more numerous and rigid must be the respective precautionary customs and habits of its communities. And yet, it is regrettable to note that encouragement of indiscriminate inter-dining and inter-marriages has become the order of the day, with the result that diseases are contracted and untold miseries are the result. This is no civilisation, but either perversion or primitivism.

No civilised person, if health counts for anything with him, will doubt for a moment the absolute necessity and indispensability of conservatism, at least in regard to physical contact with persons of either sex, of unknown heritage and personal history. Had not the Indians been civilized in every drop of their blood, they would not have been so persistent in their physical hygiene, which others call superstitious customs and habits of 'Hindus'. That there is absolutely nothing superstitious in these hygienic customs cannot be proved more strongly than one of their house-hold customs, *viz.* treating one's own wife, sisters and daughters, as even unapproachables during the three-day menses periods. What wonder, then, if a people, with such a high standard of hygienic outlook, could maintain and retain their physical and hygienic purity, through centuries of centuries! And yet it looks all the more wonderful, because this is done despite hundreds of invasions of foreigners. For, the deadliest enemy of hygiene, whether personal, social or national, is the contact with an unknown and opposed object. While India, as a nation, cannot claim to have, still, her own personal hygiene after so

many invasions and long periods of foreign rule, individual and communal hygiene is there still, thanks to the Indian civilization, undisturbed. We do not mean in any way to encourage or introduce communalism in such matters of scientific importance. On the other hand, we mean to emphasise the absolute necessity of abstinence from indiscriminate physical contacts with anybody considered a stranger. This applies to all communities from their own points of view.

We say 'only physical contact' and not any contact, that should be discouraged. Cultural contacts are always not only welcome but indispensable for smooth and harmonious social life. The various communities of India are so many 'wards' with their own specified and habitual diets and routines. If, however, a member of one ward wants to join another, it should not be left for him to choose his own manner, but for the medical authorities or the experts in such matters. Each community, just as each individual, enjoys its own characteristic hygienic equillibrium, and if this is disturbed, the effect will be deplorable in the long run.

While this is so, it is hopelessly deplorable that in the name of civil liberties and civilisation,it has become a fashion now to arrange cosmopolitan dinners at the slightest chance without any thought bestowed on the nutritional and hygienic standard of food and arrangements. Every such dinner, may mean convening a conference at which resolutions to welcome and imbibe various contagious and infectious diseases, are passed on behalf of the various communities to which various partakers belong. Though the fashion is fast becoming a custom and may soon become a tradition, it is not too late even now, to discourage such things publicly, at least in the interests of communal hygiene. The only foundation stone and pillar on which all such unhygienic customs stand is the idea that this is civilisation. But it is not, as already pointed out.

The greatest disturbance to any civilisation comes from foreign invasions. While the Indian hygiene is already in death grips with so-called civilisation, called the European civilisation, there appears another similar danger on the horizon, the Japanese invasion,against which also we should guard ourselves at any cost.

It is said, subject to correction,that venereal diseases are so rampant in Japan as no where else on the face of the earth. A two-front war on the Indian hygiene is, thus, in the prospect and the best way out is by making peace with the European civilisation. Our minimum demands are that no cooked food should be served in cosmopolitan dinners. This, we hope, is the most reasonable compromise, because it will neither demand abolition of cosmopolitan dinners, nor would let hygiene be disturbed. Moreover, a healthy fashion of eating fruits and milk, educative and nutritive, will have been started.

As for inter-marriage, this is more intimate and permanent physical contact, and as such, it should be undertaken only after serious thought bestowed before hand. One criterion in this connection should be the health and hygiene of not only the to-be couples, but their progeny ; and not love which, in the case of persons past puberty,is invariably nothing but instinctive sexual urge with an outward expression of mere friendly attachment. The purpose of marriage, undoubtedly is the moral standard and status of the progeny in society. If that is to be achieved, the laws of heredity and procreation should be consulted before inter-marriages. Just as cross intercourses between pure horses and pure donkeys bring forth neither pure horses nor pure donkeys, but a separate and curious mixed species, so too, if one community, perfect from its own point of view, allows the blood of another to

mix with its own, the result will be a mixture and not the pure element. If a community, however, is conscious of the inherent weakness of the quality of its own blood, inter-marriages, not stray, but on large scale with another community, held to be of stronger quality of blood, are undoubtedly beneficial to the weaker community. But, when both communities hold theirs to be equally pure, there is absolutely no necessity of inter-marriage. If it is resorted to, the result will be the mixture and a weaker race as already pointed out. Hence, for the sake of physical hygiene and purity, one should think a thousand times in matters of blood, and should not give a single thought on the personal and romantic whims and fancies of the so-called lovers.

Such precautions or, in fact, abstinences from sexual and nutritional indiscretions, are all the more necessary during national and international crises and social revolutions. When peace prevails once again, the question can be taken with less-prejudice and more leisure and social hygiene may be enforced by legislation.

Prevention of High Blood Pressure

By DR L. R. FERNANDEZ, *Trichinopoly.*

In daily medical practice and in the daily newspapers, one very often comes across cases of high blood pressure and the laymen are often wondering why such a number of sudden deaths occur as a result of this dreadful disease. Surely, "prevention is better than cure". If the public at large are well acquainted with the causes of this disease, a great number of deaths can be prevented in this country every year.

Many are the causes of high blood pressure. Heredity or family tendency plays a most important part among the predisposing causes. This disease does not respect any age, but it is more frequent at the middle age and often at forty. As to the sex, males are more subject to it than females, since they are more exposed to the dietetic and other external influences which usually tend to raise the blood pressure. This does not mean that females are exempt from it. I know some female patients who have had more frequent attacks recently. The exciting causes are: (1) The mode of one's life which leads to deficient oxygenation of the blood and improper elimination of nitrogenous waste like meat, decomposed eggs, prawns, dhal etc., from the intestines. Constipation of a chronic nature and sedentary habits without much scope for out-door exercise also serve to increase the blood pressure. Poisonous condition of the circulating blood very often acts in the same way. Chronic kidney disease of which the patient has no spark of suspicion very often precedes and at times follows B. P. The diabetes which occurs in persons past middle life is, not infrequently, attended by blood pressure. During pregnancy and anæmia also, B. P. may rise for a short time. But one need not be alarmed. Whenever the heart beats more rapidly and more powerfully, as for instance during excitement or exertion, there is necessarily a rise of B. P. This is usually short-lived and disappears very soon.

Those who have a hereditary disposition to blood pressure can remedy it by careful and judicious living so that they may not transmit it to the younger generation. I know a young man of 22 years who inherited this disease from his aged father and is still in its grips. Excess in eating

protein foods and an inordinate thirst for liquor must be avoided by such people. Chiefly vegetarian diet at regular fixed hours and plenty of milk and fruit juices help to lower the tension. Not that vegetarians are free from it; but you may take it for granted that in the majority of cases, meat-eaters are more prone to it than the vegetarians. The latter yield to treatment more easily than the meat-eaters. So, it is advisable to reduce the amount of meat gradually. But, at the same time, it is not prudent to cut off meat altogether for the simple reason that the heart requires some proteid nourishment to overcome the enhanced arterial tension. It may be here usefully remembered that plenty of proteid nourishment can also be obtained from beans, dhal, peas, nuts, wheat, oats etc. As alcohol in any form is a stimulant and excitant, it must be avoided by all those who are suffering from high blood pressure.

Another powerful cause which raises the blood pressure is the absorption of poisons from fermenting undigested food in the stomach and long intestinal canal. Some people may be able to digest meat but not rice. Others may digest rice but not fat and milk. So, experience will teach each one what to take daily and what to eschew. As a rule, excess of fats and starchy foods may be best avoided if one sincerely wishes to steer clear of digestive disorders, so frequent in patients suffering from increased blood pressure. Indigestion and bad, hideous dreams raise the blood pressure when our sleep should be restful enough to relax the tension before the dawn of the next working day. When fermentation in the stomach and intestines exists, as evidenced by belching, flatulence and discomfort, the poisons should be immediately purged out of the offending body by laxatives and purgatives. Now and then a fast—a pretty rigorous fast—in the Gandhian method may do untold good, if undertaken once every fortnight, with nothing but fruit juices like oranges and grapes.

In my experience with patients during the past 18 years, I have seen immense benefit accruing from a regular, strict fast, chiefly in those suffering from high blood pressure. For the benefit of the readers of 'HEALTH', here below I am giving the average normal blood pressure so that they may be enabled to regulate their fast and daily mode of life.

Average Normal Blood Pressure

Age.	Systolic Pressure.	Diastolic Pressure.
20 to 40.	112 to 125 m/m.	65 to 80 m/m.
40 to 60.	125 to 135 m/m.	80 to 85 m/m.
60 to 80.	135 to 165 m/m.	85 to 90 m/m.

If the B. P. exceeds the above normal limit, there is cause for anxiety and the doctor must be consulted at once, as the eventful complications of an increased B. P. and an untimely death can be averted in time.

Chiefly in the days of severe strain and rumours of impending bombing of the civilian population, a chronic state of nerve tension induces also a rise of pressure within one's blood vessels. Try to avoid long hours of strenuous work, insufficient sleep, very exciting talkies late at night and refuse to give credence to all kinds of panicky rumours fabricated and engineered by interested parties and ignorant and ill-informed news mongers. If all our Indians compose themselves and try to live a calm and serene life, trusting in the protection and goodness of God, there is very little cause for the rise of blood pressure in these days of nerve racking rumours of War.

HEALTH AND PREVENTION OF VITAMIN DEFICIENCY

BY

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"ONLY through an understanding of the vitamins our food should contain can we bring the human race through the morass of physical weakness and de-generation of today and save it from ultimate destruction. It is important to include vitamins in the diet as well as proteins, fats, carbohydrates and also certain inorganic salts. A well-nourished community, free from scourges, is possible only when the diet is arrangad as above. It is the variety in the diet that is important. The many wild kinds of green and root vegetables used by the poorer classes in Ceylon and India yield vitamins in moderate quantities.

"Vitamin Deficiency of the Human Body".—'A' stands for clear eyes and long life. 'B' stands for steady nerves. 'C' stands for strong muscles and general health. 'D' stands for sunshine and sturdy bones. 'E' stands for the propagation of the race.

It is important to note that vitamin C is absent in cooked foods or preserved foods so that it is very essential to eat fresh fruit. Infants artificially fed do not thrive, as vitamin C deteriorates by boiling or cooking(as in the case of cow milk) and also by prolonged keeping (as with various tinned foods). The importance of fruit juice (as a few drops of lime or the juice of an orange) for such infants will thus be understood.

All the other known vitamins A,B, D & E may readily be obtained by germinating legumes or cereals. For instance green peas soaked in fresh water for 24 hours and kept moist for another 48 hours until sprouts appear and, when cooked in this state for ten to fifteen minutes, they are ready for consumption. Cooked leafy vegetables also contain vitamins A,B,D & E. The best sources of vitamin A are the following :— milk, butter, cod-liver oil, egg yolk, sweet potatoes (yellow coloured tubes are more valuable) and tomatoes. The best sources of vitamin B are:—peas, beans, seeds, nuts, yeast, leafy vegetables as spinach. lettuce, celery onions, etc. (It is absent in milled rice). The best sources of vitamin C are raw vegetables and fresh fruits. (This vitamin deteriorates on being cooked or by long keeping :—Oranges (ripe and fresh), lime fruit or lemon, tomatoes ripe, leafy vegetables eaten raw, salad, celery etc. The medicinal leafy herb known as Hydrocotyle asiatica, (Vellarai in Tamil) can often be eaten raw if made palatable with sliced onions, cocoanuts scraped etc. It is one of the best tonics. It is also known as a valuable medicine for chronic catarrhs of the nose. Vitamin D, found principally in unadulterated sunshine and Cod-liver oil, protects us against tuberculosis, and our children against rickets. This is the vitamin that builds healthy bones and strong teeth. Action of sun's rays, morning or evening, produces a minute quantity of vitamin D. Hence a little sunlight is necessary for the healthy growth of children, (excessive sun bathing is harmful). Vitamin E is largely found in green leaves, seeds, cocoanut-oil and corn-oil.

Deficiency in vitamins lowers the individual's ability to resist infections. Through the ages, the human animal and his ancestors have subsisted on foods that have supplied the necessary resistance against the various types of infections to which he has been exposed. Had this not been the case, the race would have ceased to exist. While the food supply of our primæval ancestors was a "hit or miss" affair, it must have supplied the necessary elements for the building of strong, healthy bodies and the development of a relatively high type of brain. Among savage men at the present time and among animals living under natural conditions, the highest type of physical strength and health is to be found. The tremendous physical strength of our cousin the gorilla, represents what our strength might be were we to live a normal natural life. It might be argued that in civilized life such a thing is not necessary, but when we consider that physical strength only typifies a superior ability to align ourselves with natural law and a greater and more intense enjoyment of life, then we must realise that it is a thing very much to be desired and a goal which all humanity should aim at. On the other hand, if we are to be satisfied with present conditions—physical weakness, degeneration and increased disease incidence—it is plainly to be seen that degeneration, now going on, means the ultimate destruction of the human race.

Question: What causes mucus in the system ?

Answer: The thing that causes mucus in the system is the usual meals the average person eats. Meat, milk, eggs-white, flour-gravy-and everything of white flour ; white rice, pearled barley, peeled potatoes and other foods of high starch content. This diet clogs the cells of the body, is difficult to eliminate and will cause congestion of nearly every organ.

Q: Should more than three meals a day be eaten ?

A: We should never eat by the clock. We should eat when we need food. Heavy meals—if you must eat them—should be spaced hours apart. A little food at frequent intervals is not harmful, but be sure that the stomach must have time to rest. The idea of three meals a day is correct but none of these meals should be heavy.

Q: Should children eat the same food as adults ?

A: Adults and children should not eat the same kind of food. Adults need nerve, brain, alkaline and eliminating foods. Children need the above but in addition require more calcium than adults, and more proteins for growth and development. Then again, elderly persons should eat food that is easily digested and eliminated. Their digestive organs are not, as a general rule, as robust as a growing youngster.

Q: Why is white sugar harmful ?

A: White sugar is deficient in organic salts. White sugar is almost pure carbon;therefore,when sugar is taken into the body, it breaks down the cells in order to furnish sufficient alkaline elements to neutralize the carbonic acid which it forms. I consider white sugar is dangerous to health.

Q: What is your opinion of fried foods ?

A: Fried foods do not bear a good reputation. To begin with, foods cooked in this manner are cooked at too high a temperature, whereby most of the vitamins and body essentials are destroyed. The medium in which frying is done is usually not a good one. Fried foods do not digest readily and form acid and bring on constipation. They are dangerous to the human system.

Q: What is the remedy for goitre ?

A: There are many forms of goitre. A simple goitre is a mere enlargement of the thyroid gland. Eating animal protein is usually the the cause of this condition and an elimination of such meats from the diet should aid in freeing the system of this dangerous encumbrance. Goitre is the body's protection in furnishing the system with more thyroidine to combat harmful bacteria.

HEALTH OF NAILS

A STUDY of the nails of the hands is a remarkably accurate guide to many diseases. This part of science though recognised by the majority of medical men for clinical interest and importance too, is often overlooked by many.

A healthy nail should be rosy, glossy and smooth with a well defined crescent at the base. It should be free of all ridges, spots, creaks or blemishes and be so hard as to withstand the ordinary wear and tear to which it is subjected without breaking or splitting.

The nails should be guarded from infection of all kinds and kept clear of all dirt and dust which accumulate round the edges. A splinter beneath a nail should never be allowed to remain there for any length of time as the presence there of any foreign matter invariably sets up immediate inflammation. Diseases of the nail bed are very painful and are usually difficult to treat. Minor ailments of the nails such as whitlow, split nails and inflammation of the cuticle could to a great extent be prevented if the nails are properly cared for.

All stains which are caused through domestic duties are easily removed by the application of lemon juice. Nicotine stains from which cigarette smokers suffer are effectually removed by the use of diluted Hydrochloric acid. Hydrogen peroxide will be found to be one of the best bleaching fluids.

By

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Polanur, West Godavary.

The habit of biting nails in itself disagreeable to the person who indulges in it and an objectionable sight to others, not only ruins the nails but also spoils the shape of the fingers. This habit prevalent among adults as well as in children is due to extreme sensitiveness or to a highly nervous temperament. Grown-ups can overcome it by the exercise of will power and the general cultivation of nervous energy. Children who are victims should be carefully watched and continually corrected attention being paid to their general health. The custom of applying bitter and badly tasting drugs on the tips of the fingers is a favourite remedy and has been found to be generally efficacious with children.

The nails are peculiarly indicative of some disease especially nerves, heart, lungs and spine.

If the nails are:

1. *Blue*:—They indicate heart disease..

2. *Too convex*:—They indicate heart disease and consumption.

3. *Fissured*:— They indicate gout.

4. *White and anaemic*:—Poverty of blood.

5. *Brittle, rough and dragged*:—Syphilis, ringworm and skin diseases.

6. *If nails are having transverse ridges and curved inwards*:—Tuberculosis.

The pitting and downward curving of nails, especially ring finger, which move forward from below to the edge. Cyanosis may also be present:—Active tuberculosis.

7. *White half moons indicate* digestive disorder.

8. *Large moons*:—Always denote strong action of the heart and rapid circulation of the blood but when unusually large they indicate too much pressure on the heart and rapidity in its beat, the valves overstrained and danger of bursting some blood vessel in the heart or in the brain.

9. *Small moons*:—Indicate the reverse of this. They always denote poor circulation, weak action of the heart and anæmia of the brain.

When close to the death, the moons are the first to take on a bluish look and later on the entire nail becomes blue or almost black in colour.

10. *White spots*:—These are generally produced by the presence of air which has entered during the growth of the nail. Anæmic and bad circulation also cause white spots but they will disappear naturally as the health is built up again. Minor accidents are also responsible for such spots but these of course are cut away with the dead edge of the nail during its growth.

11. *Dark stains*:—Any severe pressure causing injury to the nail results in a dark stain from beneath. This is due to the exuded blood showing through the nail and will pass away as the wound heals and the nail grows. In very bad cases, however, when the nail is seriously injured, the nail will come right away and a healthy new nail will grow in its place in time.

12. *Long nails*:—Persons with long nails are more liable to all diseases of the chest and lungs and still more so when these long nails are seen ribbed or fluted with the ribs running upward from the base to the edge of the nail. The same type of the nail but shorter in appearance indicates that the delicacy lies higher up towards the throat and denotes tendencies for laryngitis, inflammation of the throat and all bronchial troubles.

13. *Long narrow nails*:—Very narrow nails show spinal weakness and when extremely curved and very thin, they indicate curvature of the spine and great delicacy of the constitution.

14. *Short nails*:—Denote a tendency towards weak action of the heart, especially so when the moons are very small or barely noticeable. When the nails appear very flat and sunk into the flesh at the base, they denote nerve disease. When they are ribbed across the nail from side to side, the danger is still more apparent. When a deep furrow is found across the nail, it is a sign in any hand that an unusual call has recently been made on the nervous system by illness. When the nail is seen covered with small flecks, the whole nervous system is in a low state of health.

15. *Flat nails*:—When the nails appear very flat and inclined to lift themselves up from the flesh towards their outer edge, the threatened danger is towards paralysis and still more so when they look like a shell and are pointed towards the base. When these nails are without any signs of moons and whitish or bluish in colour, the disease is in a very advanced stage.

Notes on the Training of Athletes

By S. A. SUBEDAR, L.C.P.S., R.M.P., *Kutiyana, West Kathiawar.*

(ABRIDGED.)

THE application of scientific principles to the practice of training of the body for specially severe exertion is of the comparatively recent date. Strenuous competitive exercises,*i.e.* boxing, rowing, walking were confined to the lower classes as professional exploits. The so-called principles of training were applied with brutality which seems almost incredible to us at the present time.

When athletic enterprises became fashionable, the youths of the period imitated their methods and adopted their system of rules and regulations. For a time the training remained in the hands of the arbitrary professionals whose methods constituted an ordeal from which even the bravest might turn with a shudder.

The medical profession claims to have been responsible for a better understanding of the rationale upon which the physical perfection of the human body depends. The medical profession has tried to explain that the laws of physiology apply with particular reference to the subject of training. With gradual elimination of sheer brute force from many feats of exertion, the introduction of skilled co-ordinated movements has encouraged the aspirants to athletic distinction as highly specialised individuals rather than as crude mass-produced machines upon which almost any sort of system might be imposed.

Diet in Training. — Prejudice is always difficult to overcome and particularly in regard to dietetics in training; the old fashioned and well established fetishes will be the last to disappear. The fundamentals are readily comprehended. They are based upon experiments and investigations. It is easy to understand that no article of food can possess specific properties to produce or increase respiratory power or circulatory efficiency. Energy, stamina, strength and endurance are obtained by efforts. So long as essentials are provided and the food is suitable to the digestive organs and agreeable to the palate, it matters very little in what form they are taken.

Any food which is a source of energy is good for training as, during violent exercise,much energy is required for the muscular effort. The heart and the lungs should not be embarrassed by improper and injudicious meals at unsuitable times. Our predecessors appreciating that overcooking hardened the fibres of meat, ate it raw. Such injunctions led to a nauseating regime which produced staleness, boils and other minor illnesses too frequent during the training of the past, and, although rare, not altogether absent at the present day.

Quantity of Food.—The only guide to the quantity of food, which an athlete should consume, is the natural appetite. To eat beyond the requirement of appetite is a gross error. Particle of food thus eaten becomes an encumbrance, hindrance, and a loss. To consume large quantities of animal proteins, on the mistaken belief that strength is acquired, is a grave error. Long-distance cyclists take astonishingly small quantities of food. This leads us to the conclusion that eating is often a matter of habit.

The Choice of Food.—The more we study the method of the greatest athletes, the more we are struck with their simplicity. The normal selection is a mixed diet according to the taste, opportunity or status of the individual. It is a question whether

any virtue is possessed by the proteins of meat over those of milk, eggs and cheese. With ethics, we are not concerned. There are great vegetarian athletes also. It is therefore foolish to assert that all athletes should follow a particular rule in matter of diet.

Recently, the value of carbohydrate as a muscle food has assumed importance and the practice of taking sugar a short time before a contest is harmless. In the case of every prolonged efforts such as a 100 mile run or a 12 hour cycle race, the athlete will be well advised to take only meat sandwiches of small bulk or a solution of glucose, remembering also that the loss of water from the body should be replaced by common salt solution. Experiments have given support to the impression that vitamin B and fat in small quantities should be included in the diet.

Liquids.—An idea to a certain extent persists that liquid in any form is bad for training. It is very simple to explain that violent exercise is accompanied by considerable loss of water through the skin and unless this water is replaced regularly the athlete will suffer from insufficiency of lubrication. Liquid in training is not only harmless, but a liberal supply is beneficial, provided it is not taken in excess at meal times. Enough should be taken on an empty stomach, on rising, between meals and at night.

Alcohol.— Alcohol is quite unnecessary in training. The vast majority of athletes are total abstainers. Alcohol has its limited use as a medicine. It is the practice during the full training of the University crew to allow champagine occasionally to instil a spirit of cheerfulness and to mitigate over-anxiety which prevails in the circumstances.

Tobacco.—In training, it is inadvisable to change a man's habits; emphasis should not be laid upon the prohibition of smoking. It is not easy to compare the capabilities of smokers and non-smokers. Experiments have been conducted which appear to indicate the baleful effects of tobacco upon physical efficiency, for example the disadvantages of carbon monoxide in inhaled smoke, the effects on the nervous system, or the direct action on the heart. But the restlessness, sleeplessness, irritability and other disturbances which often follow withdrawal of tobacco should not be forgotten. The young athlete should be encouraged to abstain from tobacco as much as possible. It is good to be more tolerant. There are great-track athletes who smoke up to the last moment of going to the track; long distance cyclists are invariably non-smokers, because they were not interested.

Sleep.—This depends on the individual. The old idea that half of 24 hours should be spent in bed has no justification. Sleep of seven or at most eight hours should be recommended. Injunction to go to bed early should be enforced to avoid late hours which are not good for training. To bed at 10 or 10-30 p. m. rising at 6 or 6-30 a.m. with a little physical exercise or some mental occupation,before breakfast, is the best rule.

Drugs.—Old-time training consisted of strong emetics and strong purgatives. Nowadays, drugs are rarely employed. Their use is only guided by the necessity of the moment. Their benefit is only suggestive. The doping habit which is prevalent in some part of the continent should be condemned.

Physical Fitness and Staleness.—A distinction ought to be drawn between training and coaching. The preparation of an athlete for a contest requires him to be brought to the acme of physical perfection. Co-operation between the couch and the trainer is the best procedure. The condition of physical fitness and that of staleness are associated. When an

athlete goes stale, the change is so profound as to lead us to the conclusion that some constitutional disturbance has occurred. His nervous system is deranged. He is dejected, peevish, irritable, sleeps badly, loses his appetite, and loathes the track and anything connected with it. His capabilities deteriorate. He is inferior to an untrained man. This can be attributed to the monotony of life, diet, society, and conversation. If staleness should occur, complete rest from the track and from everything connected with it, should be advised. This will restore the mental balance in a few days.

Change of food will also contribute to the cure. It is desirable to give rest to the digestive organs by giving invalid diet. A small dose of calomel should be given. Weight is the guide which leads us to the suspicion of staleness. A continuous loss of weight must be regarded as a danger signal. Change in the rate of heart beats is another guide. The athlete should be exerted for a period of 20 seconds. After the cessation of exertion, if he does not regain his former pulse rate within 40 seconds, he is unfit. Searching inquiry must be made not forgetting the psychological aspect. —*Indian Medical Gazette.*

MOTOR ACCIDENTS

"TIME may yet come when the motor car will be known as Public Killer No. 1. With a record of 35,000 killed and at least 13,000,00 seriously injured each year in motor accidents, the motor vehicle would seem to be more deadly than the threat of bombers," *Hygeia*, the 'Health' magazine of U. S. A. in a recent issue. "In almost every case" notes the magazine, "the driver of the motor car is responsible. For that reason the National Institute of Health, utilising its physicians, psychologists, biochemists and biometrists has completed an intensive study of 889 truck drivers, with a view to determining accurately the mental and nervous fatigue resulting from hours of driving under actual road conditions. The test showed that driving efficiency decreased most sharply after the first two or three hours and thereafter decreases gradually.

"Unquestionably," adds the magazine "safety requires average motorists to avoid long uninterrupted periods of driving. The latest investigation shows that at least one accident in every hundred is due to the fact that the drivers were asleep. It is not always an unintelligent man who falls asleep at the wheels, it is, however, a careless one.

"The worst example of folly," the magazine significantly adds, "is the person who takes a vacation as a means of rest and relaxation and then exhausts himself in driving either to or from the place where he plans to rest and relax. If one is planning to drive by motor either as a form of vacation or as a part of a vacation plan, he should drive only a few hours each day and get plenty of rest and relaxation between the periods of driving."

HOW THEY PLANNED - -

MUNICIPALISM IN ANCIENT INDIA

By PROF. V. R. RAMACHANDRA DIKSHITAR,
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FROM the point of view of drainage, road-making, conservancy and house-build, the civic authorities of these two ancient cities took a very earnest interest in the promotion of their civic needs. Every street and road in these cities had drains. That these drains did not extend beyond the city limits seems fairly certain. The city, however, had a number of thorough-fares, all open. In these, what are known as soak-pits were dug with the idea that the fluids would soak into the soil while the residue was removed by the scavengers of the city.

The system of carrying drains to soak-pits seems to have continued for many centuries until, in historical times, soak-wells were substituted, for instance by the municipality of Texila in the early centuries of the Christian era. Whether this was a change for the better we cannot say. From the stand-point of sanitation, soak-pits are much better than soak-wells, for they yield facilities for periodical evacuation and cleaning.

The streets seem to have been laid out on a well-thought-out plan, which has made modern engineers wonder. There were main streets and side-lanes and long narrow lanes. These streets and lanes were remarkably aligned. "All the main streets are oriented to the points of the compass. Houses and public buildings correspond in their orientation with the streets." The same regularity and care are seen in the lanes, which vary from 3 ft. 8 ins. to 7 ft. in breadth, as also in the squaring of the side streets which lead to the main street. A main street is said to be 35 feet in width. In another area, there is a street 29 feet wide. Most of these streets and lanes were, we are told, amply provided with drains and soak-pits, almost all in a state of excellent preservation.

In some places, we find what are known as barred streets or streets barred by thin cross walls. It has been conjectured that the city was thus divided by cross walls into wards for the sake of public security. But it was very doubtful whether such a flimsy construction was intended to maintain public security. I may venture to suggest that this is an indication that the city was divided into wards for purposes of muncipal administration, and these thin walls marked the limits of various "wards." The corners of some streets seem to have been slightly rounded. Whether the rounding of these corners was intentional or the result of time—or of the animals rubbing against them—is an open question. It may be remarked in passing that there is no evidence that these streets were paved. What we find are earth roads, though paving was not unknown, for the floors of bath-rooms were invariably paved; still, there is unmistakable evidence of the use of chariots and carts drawn by asses and oxen. We have, therefore, to assume that, though the roads were not paved, they were kept in excellent condition.

The problem of conservancy was squarely tackled by the municipal authorities of Mohenjo Daro. At convenient spots on the side of the street, public dust-bins were provided. Just as there were public drains and private drains, there were both public dust-bins and private dust-bins. Rubbish chutes or flues were constructed in the thickness of the walls and

connected from the upper story of the house to a bin outside. This was a private bin which scavengers cleared from the street. Care was also taken to clear the public dust-bins. The scavenging system must have been regular and satisfactory. In one area (H. R.) in a house, there is an interesting structure of two rooms side by side. One of them contains a well; and the other, two well-built privies with square paved floors in front. There are outlets connecting these rooms with a drain in the lane behind. Except this almost single instance, it has not been possible to trace latrines in other buildings. But most houses possessed small, doorless chambers, it is just possible that these were used as cess-pits.

We next find that great care was bestowed on house building. Good material was used. Burnt bricks of different dimensions and shapes were used in parts exposed to sun and rain and sun-dried bricks for parts not so exposed. The houses were solidly built, more or less in a uniform style. Most of them were provided with an upper floor, where the members of the family lived and slept. The upper floor was also provided with a latrine connected with drains. The servants lived on the ground-floor. The houses, small and big, were well-ventilated. Each of them had its own well and drains, bath-rooms and courtyard. The drain pipes in the houses were pottery pipes. The house drain discharged the rain water, though it was sometimes used for sewage (generally cess-pits were used for this purpose).

One feature of these cities is the existence of a public bath, a public drinking-place, and public wells. In a room (No. XLIII) of H. R. area, there is a fine well, and the floor is neatly paved with brick. It contains shallow round-pits meant to hold pottery jars. These were filled with drinking water, and there was an attendant, who supplied it to the thirsty. Broken pottery goblets with pointed bases were discovered here. One also finds public wells. A public well was often constructed in a cul-de-sac between two houses. Around it was a fine pavement of burnt bricks with pot-holes here and there. These were evidently places for keeping large water jars. In more than one place around the well were built benches of brick. Possibly these were seats for people who came to draw water and had to wait on account of a crowd.

Lastly, we may mention the Great Bath which, according to Sir John Marshall, was part of what appears to have been a vast hydropathic establishment at Mohenjo Daro. In its centre was a quadrangle with verandahs in all four sides. At the back of three of these verandahs were galleries and rooms. In the middle of the quadrangle is a swimming-bath which measures 39 ft. by 23 ft. It is 8 ft. below the pavement of the court. At both ends there is a flight of steps. Water from several wells nearby filled the bath. The waste water was taken to a covered drain in the south-west corner. After 5,000 years, this tank is still astonishingly well preserved. A line of small bathrooms to the north of this Great Bath is also considered to be a part of the hydropathic establishment. In the south-west corner of the Great Bath stands a building with a number of rectangular platforms. In their sides are sunk a series of vertical chases connected with hypocaust flues to distribute heat. Between these platforms are narrow passages where cinders and charcoal were found. All these are said to point to the hypocaustic system of heating. In other words, this was a hot-air bath.

These facts are enough to show how the city fathers of Mohenjo Daro attended to the Health and well-being of its citizens. They also testify to the high political life developed in north India in the third millennium B. C.—*Kemcol.*

AIR RAIDS and MENTAL HYGIENE

BY

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BEFORE this war, and during its earlier stages, it had been anticipated that after intensive aerial bombardment, and even in response to the threat of air-raids, instances of alarm, of acute mental distress and even of panic might occur among the civilian population. Against this contingency, careful preparation was made upon a considerable scale. In first-line hospitals, special accommodation was set apart for the reception of nervous cases, and instructions were circulated with respect to their immediate care. Arrangements were made whereby selected cases of neurosis could be referred for treatment to a neurosis centre situated in a safe area. In view of the possibility that psychiatric out-patient clinics might well be swamped with work, courses of intensive training were organised for auxiliary mental health workers who, it was felt, might render invaluable service by helping to cope with the problem in the sociological field. It was expected that in a large city, some hundreds of "shell-shock" cases might result from a severe series of raids.

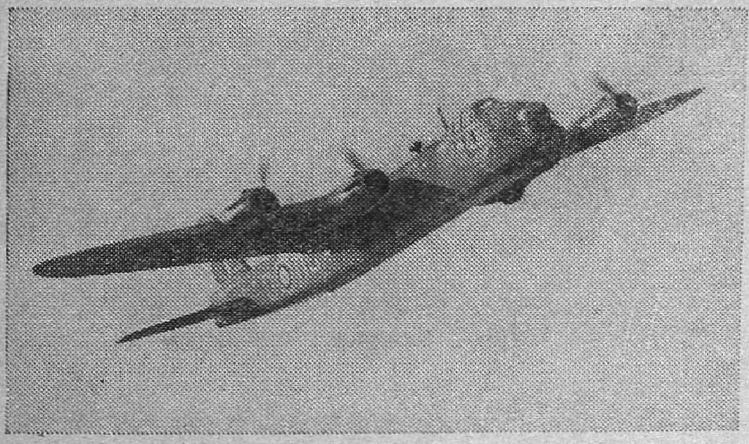
Members of the Soviet Military Mission in London inspecting London's Air Defence Methods.

Picture shows the Russian Officer testing the weight of an anti-aircraft shell and exclaiming "A nice present for Germany!"

What actually occurred is now common knowledge and a matter, perhaps, for sober satisfaction. The wards set apart remained empty, the clinics dealt with no more than their usual flow of cases, the workers who were warned for duty have not been called upon—at all events for service in this connection; the blitzkrieg was met by a stoical courage and an undaunted determination. In series after series of casualties referred to the first-line hospitals, the proportion of psychological cases was negligible. Of a series of 578 casualties referred to one hospital, in two cases only was the element of neurosis prominent. In one major incident with which the writer was closely concerned and which resulted in some 30 to 40 casualties, no instance of hysteria was observed. In the writer's

experience, there has been nothing to indicate that children are particularly susceptible psychologically to the effects of air bombardment. In general, as perhaps might be expected, their attitude would seem largely to reflect the example of those of their elders with whom they have been in contact.

Occurrence of War Neurosis.—Nervous casualties do occur as a result of air-raid conditions, but not only is the number relatively small; the causative stresses are other than had been anticipated. It would seem that fear of death or of the terrific are of less account than the darkness and the dust, the blood and the glass, the loss, dislocation and indescribable inconvenience. But even these ills do not in themselves cause nervous breakdown. It may be said in general that neurosis occurs not so much as a direct, but as an indirect, result of raids. That is to say, it is not the direct experience of enemy action, the whistling descent, the suck of blast or the huge detonation that causes neurotic breakdown, but the long spells in a hard-pressed Civil Defence sector, gross loss of sleep, extreme fatigue, or the prolonged dislocation of circumstances, amenities and relationships, which overcome endurance. Even in cases where neurosis occurs as a result of air-raids, recovery is rapid if measures for treatment can be promptly applied. So much is this the case that in instances where, several months after bombing, undue reaction to sirens, sound of planes and so forth persists, some cause other than enemy action must be sought, notably in the personality of the individual concerned. In such cases, it may be found that the ostensible fear of raids is but the mask for mental conflict or unconscious purpose of quite different significance.



Stirling—A Mammoth British Bomber.

Having four 14-cylinder engines, totalling 5,600 h. p., and a wing-span of 100 ft., Stirlings have been among the mightiest bombers in operation with the R. A. F. during their recent heaviest raids deep into Germany.

Psychological Considerations.—At this point, it may be germane to deal with some aspects of fear and anxiety. To fear is to be afraid of some known thing. Fear is normally experienced in circumstances of danger, and may be regarded as a natural reaction of the normal personality which, actually, is stimulated by emergency. The term fright includes the element of surprise, fear of being evoked by unexpected or sudden danger. Anxiety is indefinite and expectant. If it be concerned with a known danger, it is objective; but if such suspense occurs in relation to an unknown or unrealised danger, it borders upon the neurotic. Where

objective and neurotic anxiety are combined, the anxiety appears as excessive or disproportionate to the occasion. In panic, there is not only fear which is excessive and unwarranted but a breakdown of group ties and contacts, mass neurosis and loss of individual control in response to some supposed and nameless horror.

Where abnormal mental distress, ostensibly in response to air-raids, occurs, it is frequently found that the patient is not suffering from actual mental illness, labours under severe maladjustment of personality that causes him to be at war within himself. Lacking fundamental belief and confidence in himself, he finds difficulty in reposing trust in others or in accepting their advice or leadership. At times of strain, this disability may begin to reveal itself in unconventional, resentful, rebellious or defeatist attitudes of mind. The individual may be prone to scornful and destructive criticism of the system or of authority, yet supplying by way of substitute at most vague and impracticable schemes. That at such times there is a place for good-humoured grousing is admitted; indeed, it would seem that this safety-valve has a peculiar attraction for the British character. There is a time, too, for the ventilation of genuine grievances; but not during enemy action. Immediate breakdown may take various forms. The individual may take to persistent and unreasoning flight, sometimes regardless of direction or personal safety. He may attempt to conceal his fear, from himself as well as from others, by a show of aggressive, even violent, behaviour. Alternatively, the reaction may be one of complete helplessness, the patient being as it were paralysed with fear. Resort to alcoholism may convert a fearful person into a difficult obstructive or obstreperous one, whose troublesomeness is particularly unwelcome at a critical period. Another form of nervous failure is the substitution of fear by reckless outbursts which, heedless of authority, are apt to endanger others.

Early Recognition and Handling of Mental Distress.—In dealing with the problem of fear and potentialities for the development of neurosis, we may with profit study our individual selves as a step toward the understanding of others. Among those familiar with conditions of air attack, it will be agreed that our degree of hardihood at the end of the second or third successive long night is not quite what it was at the beginning of the first, though fundamental determination remains unaffected. The element of fatigue has intervened. Of this, minor signs may be noted, such as irritability, increased tendency to "get rattled" or feel "fed up"; "jumpiness" may be present so that the sound of acceleration of cars in low gear is apt to suggest the beginning of the syren; booming sounds, though of simple origin, may be too reminiscent for comfort, while the sound of car tyres on a wet road has been likened to the descent of incendiary bombs. These warning signs are worthy of note since effects disappear rapidly with rest or change, and short periods of these may well be practicable. Whatever may be his outward demeanour, it is important that the individual should not, however worthy the motive, deceive himself as to the true state of his feelings. As has been already stated, fear is a natural response to circumstances of danger; frankly to admit its presence will be to lessen mental conflict, thereby diminishing the risk of inefficiency and breakdown, with consequent incapacity, at a later stage.

Periods of acute national crisis are frequently associated with an apparent increase in the incidence of mental disorder as measured by the increased number of such cases in which psychiatric opinion is sought and also by the admission figures of mental observation wards. To this,

the outset of the period of intensive air bombardment proved no exception. It was natural that the more difficult and complex conditions of shelter and communal life would make it impractical for mentally disordered, mentally defective, and otherwise psychopathic members of the community any longer to be cared for, as previously, in their own homes. This tendency towards evacuation of mentally unstable persons from their homes to the local observation wards at the outset of intensified air attack would seem to be sufficiently marked as to suggest that a populated area expecting heavy raiding should arrange for their ascertainment and removal of such persons beforehand or set apart a reserve of bed accommodation for the purpose. To meet the eventuality of mental distress occurring acutely, the arrangements in the area with which the writer was concerned, other than those providing for direct admission of cases into first-line hospitals, were as follows. All A.R.P. wardens and social workers were instructed to bring to the notice of family, panel or district doctors, either directly or through their relatives and friends, or by communicating with the relieving officer or municipal health visitor, any case of serious or persistent distress of mind with which they might come into contact. At the same time, all medical practitioners in the categories referred to above were informed that these instructions had been given, and were furnished with a list giving the names, addresses, telephone numbers, days and times of attendance of the eleven mental health out-patients departments of the district, both independent clinics and those attached to general hospitals. In a limited number of cases, the removal of the patient from the area of enemy action is desirable, though many nervous casualties speedily regain their mental poise. It is possible that the number of such casualties has been lessened by the spontaneous evacuation beforehand of apprehensive persons.

Maintenance of Mental Health — It has already been seen that nervous failure is less apt to arise from the major shock and acute stress of enemy action directly than to occur indirectly as a result of prolonged strain, fatigue and the exhaustion of endurance. This consideration suggests inquiry into the nature of civilian morale and as to the factors which maintain it. The latter are divisible into two groups of influences —spiritual and material. Among spiritual forces must be mentioned religion. Owing to reticence, and suspicion which perhaps naturally attaches to outward show of religious feeling, the part played by this influence is apt to remain obscure. It nevertheless remains immensely potent and; irrespective of creed or denomination, asserts itself strongly in the emergencies of life and death or in response to attack from without. Upon the force exerted by love of country, or by group ties, loyalties and healthy rivalries, it is unnecessary to dilate. In addition to the influence exerted by past and noble tradition, it is important also to recognise, foster and cultivate the lively and vigorous traditions which, even during the present struggle, have sprung into being as civil community has vied with civil community in eagerness to defy and defeat a ruthless foe. Among the factors affecting morale must be mentioned confidence in leadership. This must have played a considerable part during recent months, though good leadership has not always been indispensable to the maintenance of stout-heartedness. On the more material side, the fact of having a definite job to do is of great importance (even in an emergency this principle can of course be utilised), and the higher degree of skill and training, the greater the effect. The provision of proper equipment, apparatus, uniform and organisation is of

obvious accessory value. Finally, it cannot be too strongly emphasised, and imparted to the minds of the civilian population, that air-raid precautions, the activities of civil defence workers—indeed every disciplined act—are not merely measures of defence but methods of offence; that every practice, every drill, every bandage efficiently applied or message competently dealt with—even a thorough knowledge of such regulations as apply—constitutes an offensive act, a frustration of the enemy's purpose. In these ways, can those psychological principles which have inspired all that is best in military discipline and tradition be made to maintain the fighting spirit of the general public.—*The Medical Officer.*

PROTECTION AGAINST AIR RAIDS

Adapted from 'Patna J. Med' (1941) 16.

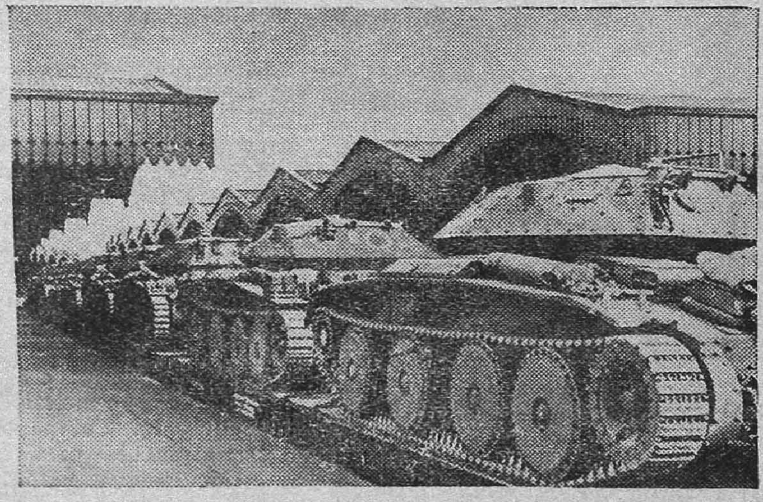
Protection against high Explosive Bombs.—The most effective weapon used by modern air forces is the high explosive bomb which may weigh from 1½ seers to 50 maunds. If stood on end, a 55-seer bomb stands 2'-3" high while a 50 maund bomb will measure 13' - 6". A bomb weighing 3 maunds will penetrate 40 feet into earth or sand.

The chances of a direct hit are small and the cost of protective measures so prohibitive that protection against blast and splinters only can be considered.

When a bomb hits the ground, it explodes and two things happen:—

(1) The casing breaks up into fragments or splinters, the majority of which fly slightly upwards and *sideways* at terrific speed possibly killing persons 400 yards away and even penetrating 9 inch brick walls 50 feet away.

(2) The force, or blast, of the explosion is expanded outwards and pushes away the air causing a vacuum at the site of the explosion. This is done with such great force that the pressure of air hitting against houses, crumples them up, windows are smashed and doors are blown in. The vacuum closes in a fraction of a second by sucking in the surrounding air. This happens with even greater



British Tanks on Way to Russia

Just some of the tanks produced during the recent British "Tanks for Russia" drive.

force and is sufficient to pull down walls.

What can be done for protection against splinters and blast?

(1) If your house is pucca, choose a room on the ground floor in which two take refuge. This room must be well constructed, the walls should be at least 13½ inches brick in cement, and easily accessible and easy to get out of. It should have as few windows and then as small as possible. If you do not think the walls are thick enough to withstand splinters they should be reinforced outside by sand bags or kerosine tins filled with sand or earth up to a height of at least 5 feet above the floor level.

Windows and doors should be protected against blast by a wall of sand bags or tins of sand bags or tins of sand or earth.

The width of the wall of sand bags or tins of sand should not be less than 2½ feet. The tins (or boxes) must be full and the earth pressed down.

(2) If your house is not pucca, you may like to construct a shelter away from the house. The following materials and thickness will protect you against blast and splinters of bombs up to 3 maunds which explode more than 50 feet away.

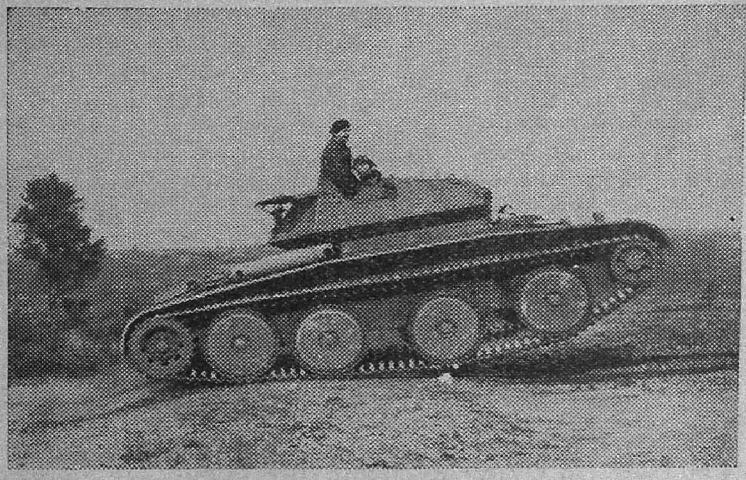
Materials.	Thickness.
Mild steel plate	1½ inches.
Bricks in cement	13½ ,,
Reinforced concrete	12 ,,
Sand or earth	2'-6"

Your A.R.P. Area Control Committee will advise you.

(3) The best and cheapest method of obtaining shelter is by means of trenches. You can dig one in your compound. It should be 6 feet deep, 3'-6" wide at the bottom an 4'-6" wide at the top, and as long as you like, but, if it is longer than 30 feet, it must be zig-zagged, or its direction changed. Roughly, you should allow 2 feet for each person. The entrance to the shelter must slope steeply and, if possible, have a bend in it.

If the sides are covered with corrugated iron or brick or concrete and the top covered with 2½ feet of earth, it will give protection against everything except a direct hit.

The trench should be dug at least 25 feet away from a building. If possible, it should be dug where it can be drained naturally, if not, you will



Iron-clad Grey-hounds of Britain's Army

The "Covenanter" cruiser tank, remarkable for its astonishing turn of speed, is a recent addition to the Land Fleet of the British Army. Its fire power is terrific and its specially designed armour gives the crew unparalleld protection all round.

have to arrange to remove the water by pumping. A latrine should be provided.

Further information can be obtained from your A.R.P. Committee. Remember, the main danger comes *sideways* and not from above.

Dive Bombing.—In a talk on 'Dive Bombing' on 24th June 1940, a Major who returned from France, said :

The first time I was bombed, I must candidly admit, I was rather frightened; but I very soon got over this fright, because I realised after a few minutes that although the noise was considerable, the effect was practically nothing. I am convinced that the damage caused by bombs directed against buildings and against personnel is about 75 per cent. fright and 25 per cent. danger.

Nobody but a half-wit would dream of staying in the open when bombing is going on if there is any possibility of getting under cover, that is to say, getting into a proper shelter, or into a ditch or into a trench. If you are unlucky enough to get caught in the open and to have no cover near you, you are perfectly safe if you lie down, placing your elbows on the ground and your hands over your ears and over the back of your head, and keeping your mouth shut and not clenching your teeth.

It is important that you should not clench your teeth because the effect of the blast of the bombs might cause your teeth to jar together and at any rate give you very bad toothache. If you keep your lips closed there is no risk of the blast blowing more air into your mouth or your lungs than you want. The best possible cover in the open is a shallow ditch, or possibly a low wall.

In conclusion, my advice is this : If dive-bombers or any other form of bombers attack the place where you are, go quickly to cover. Don't look up ; there is considerable danger in looking up: you will be injured by the flying fragments of your own anti-aircraft shells or by spent bullets. If there is no cover, lie down where you are ; ramain still, and keep perfectly calm until it is all over. The danger is far less than it might appear the first time you are bombed ; and after you have had one experience, you lose all fear of dive-bombers or any other form of aircraft activity.

Measures to Overcome Mouth Breathing

About the only practical measure to help overcome breathing through the mouth during one's sleep is a sling or bandage that will hold the jaw closed during the night, *Hygeia, The Health Magazine,* advises in a recent issue in answer to an inquiry.

"Some people find a solution by going to sleep in a different position—on the side instead of on the back," *Hygeia* says. "But, since most people change positions frequently during sleep, *this does not always help*.....Slings are often worn by chronic mouth breathers—after the removal of an obstruction in their nasal passage-ways—until they learn to breathe through their noses again. If such a bandage is used, it must be tight enough to keep the mouth closed but not so tight that it will interfere with the circulation of the blood to the skin and thus become unpleasant or painful. If an elastic bandage is used, it must be relatively loose. However, a physician should inspect the nasal passages. These passages may have an obstruction which will permit nasal breathing during waking hours, but during periods of relaxation the obstruction may be sufficient to cause a natural shift to mouth breathing."—*Texas State Medical Journal.*

Topics from Medical and Health Periodicals

Oxygen Requirements for Pilots

AN airplane pilot who is not provided with oxygen begins to lose his mental and physical efficiency at an altitude of about 12,000 feet, Harry G. Armstrong, Toronto, Can., states in *Hygeia*. His symptoms are more pronounced at 18,000 feet. Between 18,000 and 22,000 feet, his actions are like those of a drunken man, and he becomes either sleepy or very active, with outbursts of laughter or rage. At about 25,000 feet unconsciousness occurs, and unless descent to a lower altitude is made,death results within a few minutes.—*The General Practitioner.*

Body and Mind

AGAIN and again physicians have given thought to the possibility that illness, such as tuberculosis or even dementia paralytica or starvation or some other physical factor might stimulate mental activity or even be an important factor in the production of genius. There has been, for instance, evidence to show that a crippling handicap may serve as an important factor in the development of ambition. Indeed, articles have been published to indicate that allergic children are brighter than non-allergic.—Journal of the A.M.A. Jan. 4, 1941.—*National Health Review.*

Deep Breathing Helps the Mind

ONLY one thing is necessary in deep breathing. Hold the chest high so that there is a hollow curve in the back—then you cannot breathe in any other way than rightly.

One of the great advantages of deep breathing is that it gives the liver a healthy squeeze. The liver and all the organs in the abdominal cavity get overcharged with blood by bad positions in sitting. When sitting in a slumped position, the abdominal muscles are relaxed, so that the blood accumulates in the lower cavity of the trunk. Blood that is needed in the brain is accumulated in the liver in excess. This explains why the ancients called a man with "the blues," a *hypochondriac*, which means down in under the ribs. Today, we say of the same man, he is "down in the mouth." This, too, is correct, because when a man gets down under the ribs, everything is down. He looks downcast; he is downhearted, because of the congested condition of his liver and other organs.

When a man finds himself depressed, a good thing to do is to lie on the back over a pillow and slowly take several deep breaths. After bending over a desk for some time, you sometimes involuntarily throw your head back, raise the arms over the head, and take a long, deep breath, and you must have noted how your flow of thoughts was quickened.

A short walk outdoors, or a few quick steps around the room, after slowly drinking one or two glasses of water, are excellent brain exhilarators.—*Good Health, (U.S.A.)*

World Population

AT the close of 1937 the world population, according to the League of Nations *Statistical Year Book* for 1938-39, was 2,125,000,000. This represented an increase of nine millions over the world population at the end of 1936. —*Indian Journal of Venereal Diseases and Dermatology.*

Treatment of Boils

GERMS entering the body are the cause of much trouble and a boil results when germs known as staphylococci, roundshaped bodies arranged in clusters, establish themselves in the skin and in the tissues just under the skin.

At first there is a painful, red,raised pimple, which gradually enlarges and turns a darker red. This is followed by the centre getting soft and a yellowish colour, showing that pus is forming. The pus escapes through the yielding of the stretched outer skin and, a little later, it is followed by what is known as a "slough" or "core." This is a solid mass of dead germs, dead tissue and dead white corpuscles. After this discharge, the inflammation goes down, the part heals, usually leaving a scar.

The usual treatment by the home nurse is fomentations or poultices. The application of moist heat is sound because it attracts blood to the affected part and helps the local process of inflammation and hastens pus-formation and resolution. Sometimes, an enthusiastic person will endeavour to hasten discharge by squeezing the boil.

The moist heat, foments, etc., certainly help to attract more blood to the part and it also relieves pain, but should the moist dressing overalp the boil, the surrounding skin becomes wet and soggy and, therefore, unhealthy, and will itself be liable to be attacked by the germs, thus leading to a group of boils instead of one. Nature localises the infection by forming a ring fence of inflamed tissue (full of white corpuscles and protective substances) around the infected spot. This circle of cells and substances is weakened by too much moisture, while squeezing, it simply breaks the ring letting the germs from the boil run riot in the surrounding tissue.

Many doctors will order that the boil shall not be fomented. They may have it treated by various applications and may assist resolution by increasing the resistance of the body as a whole.

It should, therefore. be remembered that should the home nurse be instructed to apply a poultice or foment a boil such poultice or fomentation must not overlap too much and, further, a boil should never be squeezed.—*First Aid.*

How to Swim (Breast Stroke)

I SUPPOSE there are many of us to-day who cannot swim at all. A very few of us can swim in the swimming bath and some of us can swim well in a river or a calm sea. It is when the unexpected happens that things are different, when our ability is tested.

How can we become efficient swimmers ? In swimming, the correct timing of movements and breathing are two essential factors in producing the maximum effect with minimum effort.

Staying power in swimming is more essential than speed for the average swimmer. Speed may win a short race for a silver cup or a certificate, but staying power is the all important factor in saving life. A swimmer who possesses style, speed and endurance is admired by all and can win many races. But such are few. A swimmer of this type can, however, save a person from drowning. The foremost object of swimming is life saving, though at the same time a very cheap form of exercise.

Before learning other strokes the beginner must master the breast stroke. Such stroke can be practised on land by four counts and each count takes a specified movement of arms, legs or both together. Following are the counts in detail.

Try them out at home over a stool and when they have become automatic try them in the swimming bath with a kind friend to place his hand underneath your abdomen while you practise the movements. It is much easier to learn to swim on dry land, because possibility of swallowing water and catching chill are eliminated. It is those cold mouthfuls of water that make a beginner imitate a frantic frog, the quicker they swim the more water they swallow, and the sooner their ardour and desire for swimming is damped.

COUNT I: Lie flat with your abdomen on the stool. Arms extended forward, head low enough to look after your arms, to your finger tips, legs straight out with heels together a bit above the surface of water.

COUNT II: Keep your legs straight out, but part your arms by drawing through the water as the oars in a boat are worked. In fact your arms and legs act as oars and your body as a boat, and the arms drawn through the water will glide your body forward just as a boat glides when the oars have pulled through the water.

COUNT III: Draw up your legs with knees turned out and heels together. At the same time bend up your arms to your chest with both the elbows close to the sides, and hands clipped together just in front of your chin.

COUNT IV: Kick your legs wide apart with the sole of your feet against the water and immediately bring them together. Straighten your arms forward and your body will glide through the water for the first count of the next stroke. The easiest mistake to make in the Breast Stroke is to neglect the first count. Watch other swimmers and see for yourself how they pull and push, never holding their arms and legs still to experience the joy of gliding through the water after a strong kick with the legs.

And now breathing on the first count of your stroke while you are gliding through with your head low looking along your fingers, breathe out. Actually slow your breath out into the water so that bubbles come to the surface about your face. On the second count when you pull your arms down you will find that your shoulders rise, and that is the time to lift back head, open your mouth and fill your lungs with air. The ideal place to learn breathing is either with the movements of the counts as described above, or by numbers in water, as in the bathroom. Fill the hand basin with water count I and blow bubbles keeping your mouth and nose under the water. Lift your head and breathe in while you count 2, lower your face into water again for the 3rd and 4th count.—Mr. M. Ahmad Mirza Khan, T.P E., P.T. (Madras.) —*The Kemcol.*

Disease from Breathing Dust

THE inhalation of dust constitutes a major industrial risk in this country. Silica is the greatest offender. About half a million people in the United States are exposed to it in their occupations. Among these are miners, stone workers, employees in foundries, glass factories, potteries, in the manfacture of abrasives, and porcelain enamels, workers in sandblasting, and sand pulverizing. Many common articles like soaps, tooth-pastes, paints. fertilizers, phonograph records, optical lenses and insulation materials, contain silica.

The particles of dust get into the lungs and cause a liability to tuberculosis. In Ottawa County, Oklahoma, where important lead and zinc mines are situated there was a death rate from tuberculosis in 1930 of 241.3 per 100,000 of population, while for the entire state the rate was only 39.9. Under the workmen's compensation laws many suits have been brought by employees against the concerns for which they worked. This has been one reason why new severe precautions are taken against exposure to silica dust. The dangers involved have not been thoroughly understood until in recent years.

Silicosis is first manifested by shortness of breath and lessoned capacity for work. In itself it is not fatal but opens the way for complicating infections which may cause death. Tuberculosis is by far the commonest of these but pneumonia, influenza, and bronchitis may also be the form which the last illness may take. No treatment is known, writes Dr. Leroy U. Gardner, of the Trudeau Foundation. Saranac Lake, New York, in *International Clinics*, which will dissolve nodules of scar tissue in the lungs or restore a damaged lymphatic system. Ending the exposure is the most important step.

Asbestos dust also causes disease. This mineral has numerous industrial uses and since 1931 asbestosis has been a compensable ailment in this country. Whether it leads to tuberculosis is not definitely known.

The prevalence of great dust storms in the West has led to the fear that they might bring illness through inhalation. This does not seem likely. Tests have shown that no pathologic bacteria were borne by these blasts. The breathing of particles of coal, iron, cement, carborundum, gypsum, marble and other non-silicous substances does not produce tissue changes of clinical significance. In fact it seems that marble and gypsum dusts actually favour the healing of tuberculous processes. Besides, silicosis is developed only after long and continuous exposure. Natives working in South African mines usually quit after finishing a contract of nine months, and seldom contract silicosis

Pneumonia is prevalent among coal miners, and chronic bronchitis among men who work in other dusts, but the mechanism of this is not exactly understood.—*Good Health.*

Automobile Accidents Analysed

"AMERICA'S street and highway system is a vast stage on which is being presented the longest and most lavish procession in history," the foreword states. "In a pageant of such magnitude there are bound to be mistakes, usually caused by some actor who becomes confused or forgets his part. In the great spectacle as a whole, these interruptions are scarcely noticed, but to those who by accident or indiscretion become involved, these unrehearsed by-plays often assume the proportions of a major tragedy."

The tenth annual safety booklet just issued by The Travelers Insurance Company, entitled "Smash Hits," records pictorially and graphically the facts about accidents in which 32,100 persons were killed and almost a million and a quarter others were injured last year.

Highlights from the annual report, based on official records of the 48 States, include the following interesting facts:

Exceeding the speed limit was responsible for 36.5 per cent of the fatalities and 22.5 per cent of the injuries in 1939.

Nearly 40 per cent of all traffic accident victims were pedestrians.

Almost 87 per cent of the fatal accidents occurred in clear weather and almost 80 per cent happened when the road surface was dry.

Mors than 93 per cent of the drivers involved in fatal accidents were males and less than seven per cent females.

More persons were killed on Sunday than on any other day of the week, while the heaviest injury toll came on Saturday. Wednesday was the safest day for travel. The period between 7 p.m. and 8 p.m. was the most dangerous hour of the day.

The motor vehicle death rate, based on mileage, is at least three times as high by night as by day.

The report views with growing concern the increase in automobile-pedestrian accidents, particularly in metropolitan areas at night, and devotes an entire section to the problems of the man on foot. One graphic illustration shows that while a man takes one step and advances one yard, an automobile being driven at 35 miles an hour advances nine yards. Another shows that a pedestrian in dark clothing is all but invisible to the driver at night a mere 100 feet away but it is clearly visible in light clothing up to 200 feet or more.

Failure on the part of both drivers and pedestrians to appreciate these and many other facts was largely responsible for the record of 12,470 pedestrians killed and almost 300,000 injured in 1939, the report states.—*Illinois Medical Journal.*

Liquor Labels

AT the 1941 American Medical Association meeting in Cleveland, Ohio, three physician speakers suggested that the word "Poison" should be printed in large letters on every bottle of alcoholic liquor sold in America. These physicians are not professional reformers or Prohibitionists, but are concerned only for the health of the people of the nation. "There is no question but that the most important and widely used habit-forming drug of Western civilization is alcohol," Dr. Merrill Moore said. "If the Federal Food, Drug and Cosmetic Act is designed to prevent drug intoxication and addiction, then surely it should apply to alcohol. Arsenic, carbolic acid and other poisons are labelled under Federal regulations, and alcohol should be designated in the same way." We heartily agree with Dr. Moore and his colleagues. Not only should every bottle of alcoholic beverages carry the word "Poison" in large red letters, but every box of cigars, every pack of cigarettes, every plug of chewing tobacco, and every can of smoking tobacco should bear the same label. Our people are entitled to know they are not purchasing food when they buy alcohol and tobacco, but are in reality getting a poison. We turn heaven and earth upside down to force the food, drug, and cosmetic manufacturers to state precisely on the label the contents of their packages. Why should the liquor and tobacco manufacturers go Scott-free? Should we worry more about mouth wash than whiskey?—*Good Health.*

Heart Failure

HEART failure may be defined as the condition in which the heart is unable to maintain an efficient circulation during the efforts necessary for the daily life of the individual. The real cause of every form of heart failure appears to be persistent forcing of a heart which is being denied a sufficient period of rest. It is always accompanied by a diminution of the reserve force of the heart and it becomes impossible for the patient to indulge in the amount of physical exertion which he used to do before without experiencing cardiac distress. The essential cause of heart failure therefore, lies in the heart muscle which if disordered renders it unable to maintain an efficient circulation.—MUKTESH NATH BASU, L.M.S.—*Calcutta Medical Review.*

Dental Caries

THE first and chief reason for dental caries is insufficient nourishment before birth because of a deficiency of calcium and vitamin D in the mother's diet.

The second reason for dental caries in children is a deficiency in the amount of vitamin D ingested during the entire growing period.—*American Jl. of Diseases of Children.*

Remarkable Effect of a Pregnant Mother's Imagination

THE following singular occurrence was communicated to Dr. Miller by Mr. Benjamin Taylor :—

"A young married lady, pregnant with her second child, was with her parents at Brumswick, in New Jersey, where it was fixed she should lie-in. When that time drew nigh she sent to New-York for her nurse, and having made every necessary preparation for the interesting moment, waited with tranquility for a few days before it arrived. Nurses generally employ this time in tale-telling, gossiping, etc. The nurse in this case told, one afternoon, to the pregnant lady and her mother, how she had once nursed in the family of a Jew, and how she saw the *little infant circumcised;*and dwelt upon the description of the operation with great minuteness. The young lady sat and listened, and being very susceptible of sympathy, first shed tears, and then fainted. A day or two afterwards she was delivered, after a very short labour, of a boy. All went on very well till the next day, when the nurse discovered that the child's prepuce was diseased. Dr. Scott, of Brunswick, was immediately sent for. He came, and, on examination, found *the whole of the foreskin destroyed by a sphacelus!*

The above circumstance happened in the winter of 1798-1799. The young lady, her husband and child, all died in the course of the year."—*Journal of Amer. Med. Assn.*

Anti-Tobacco Campaign

DR. A. Rose (London W. C.) writes : Referring to the Anti-tobacco Campaign in Germany and Prof-Hans Reiter's article in particular (noted in your issue of Nov. 22, Pp. 758). I think it is about time that we, the medical men of this country, also try to combat, in a body the evils of tobacco smoking. We have constantly seen in our consulting rooms the injurious effect of this common habit, when it is carried to excess, in the jempy and every nervy individual who is amblyopic in the dark. At this time, when more cigarettes are smoked than ever before, and we see at every turn their beneficial influence, it could be wise to warn the people to lessen or to annul their output of smoke if we really are to possess A 1 nation at last. An intensive campaign of organized propaganda against the consumption of tobacco is at the moment being financed by the German State, to be undertaken in the news papers, theatres, cinemas, and all places of public assembly.—*The Br. Med. Jrl.*

Ages of Animals

THE oldest animal is probably the Galapagos Island tortoise. While figures on the longevity of animals are not very accurate, it is estimated that these giant tortoises live to the age of two hundred years. The natural life of horses is from eighteen to twenty-five years; for cows, from fourteen to fifteen years. A cat reaches extreme old age at fifteen; a rat is very old at seven. Beavers sometimes attain fifty, and squirrels live only to eight or nine. It is popularly believed that elephants reach miraculously old ages, from one to two hundred. This is a popular fallacy, for the elephant is old at seventy-five and rarely lives much longer than that. The huge hippopotamus lives about twenty years. Lions, leopards, jaguars and hyenas live to be approximately twenty-five. Monkeys live to be approximately seventeen. However, apes confined to a cage age very rapidly. Canary birds and sparrows, as well as chickens and doves, may live up to twenty years. The age of insects is hard to determine. Many insects live only a few hours, though ants may live several years. It is extremely difficult to estimate the age of fish. Various authorities have reckoned the carp's age at 150 years, the pike's life duration at one hundred years, while the salmon lives only about four years.—*Fact Digest.— National Health Review.*

In Lighter Vein

HE had been trying to secure the attention of a waitress for twenty minutes, but at last got up from his chair and, going to the desk, demanded to see the manager. "What for?" asked the girl. "I've got a complaint," he replied. "Complaint?" *retorted the girl* haughtily. "This is a cafe, not a hospital!"—*First Aid!*

* * *

TELEGRAM received by bishop from one of his ministers :—"My wife passed away yesterday, Friday. Please send substitute for Sunday."—*Medical World.*

* * *

"SHE thinks no man is good enough for her".

"Well, she may be right".

"She may be. But, she may be left too". —*The Kemcol.*

* * *

HUSBAND: "I've insured my life for $ 10,000."

Wife : "That's fine, dear. Now you won't have to run to the doctor every time you feel a bit upset."