HERALD OF health

BEAT YOUR DAILY TENSION

JUNE 1972

good health begins in childhood

by DEE DOVER

OUR diet, our likes and dislikes are formed in early childhood. We eat food because it is necessary to maintain life; it is also a habit. From infancy we embark on an eating pattern which, if not correctly balanced, can lead to health disorders later on, including constipation, fatigue, digestive disorders, dental decay, obesity, and—the killer of our age—heart disease.

Most cases of overweight can be directly attributed to childhood. Mothers in the past have considered a bonny baby to be a healthy child. Biscuits are given between meals to placate the troublesome toddler. Later growing boys are stuffed with extra food to "make them strong." Frightened and unhappy children are pampered with sweets, chocolate, and sticky buns to "make it better." Adults in need of consolation revert to childhood comforters — foods which compensate and "make it better." This is why so many fat people are not happy and jolly, but miserable and unsure of themselves.

If parents would only realize that they are responsible for setting their children off on a healthy path and not giving sweets between meals, eating habits would not have to be adjusted later in life.

According to nutrition experts, one cause for overweight is that people have lost control over their appetites for starch, sugar and fats. Such foods provide the stomach with bulk but are inadequate of themselves to promote good health. Fat people have an additional burden: every organ is strained by the excess weight. Varicose veins, piles, fatigue, headaches, and a general inability to enjoy life are all end products.

Children are most vulnerable to bad eating habits. Sticky buns and cakes often form part of a "treat." Even if teeth are cleaned afterwards there is still a higher incidence of dental caries with children who are given too many sweets and soft starchy foods made from over-refined carbohydrates.

Professor Yudkin of London University warned us several years ago: "There is now evidence that diabetes may arise from excessive intake of sugar, perhaps because of over stimulation and subsequent exhaustion of the cells which produce insulin."

Our daily bread should be the staff of life, but if children are reared on white bread that has been highly processed, they are being deprived of vital protein, vitamins, and trace elements. The answer is wholemeal bread which contains all the goodness of the wheat. *Chapatis* are far more nutritious than white bread.

In white bread 30% of the wheat is removed and used generally for animal foods. This is the most valuable part of the wheat containing protein, vitamins B and E, iron and phosphorus. Immediately this renders white flour less nutritious when compared

To page 29

June 1972

Vol. 49, No. 6

HERALD OF health

A SEVENTH-DAY ADVENTIST PUBLICATION issued monthly by the ORIENTAL WATCHMAN PUBLISHING HOUSE, P. O. Box 35, Poona 1, India.

SUBSCRIPTION RATES: 1 yr. Rs. 12.60; 2 yrs. Rs. 24.70; 3 yrs. Rs. 36.30; 5 yrs. Rs. 60.50; Foreign postage, Rs. 4.20 per year.

Foreign: Malaysia, $16.00, Ceylon, 15.40 Ceylon rupees.

SUBSCRIPTION PAYMENTS: Our representatives are authorized to receive cash or cheques and to issue official receipts for same. For orders sent to publishers, make cheque or money order payable to Oriental Watchman Publishing House, Salisbury Park, Poona 1.

REGIONAL OFFICES: Goa, Kerala, Mysore, Pondicherry, Tamil Nadu—13 Cunningham Road, Bangalore 1; Andhra, Gujarat, Maharashtra, Orissa—16 Club Road, Bombay 8; Bihar, Jammu & Kashmir, Delhi, Haryana, Himachal Pradesh, Madhya Pradesh, Punjab, Rajasthan, Uttar Pradesh, West Bengal—11 Hailey Road, New Delhi; Assam and adjacent states—Nongthymmai, Shillong; Bangladesh—130/C Dhanmandi Road, Dacca; Ceylon—7 Alfred House Gardens, Colpetty, Colombo 3; West Pakistan—Oriental Watchman Publishing House, 57 Multan Road, Lahore; Burma—Book & Bible House, 68 U Wisara Road, Rangoon.

CHANGE OF ADDRESS: Send new address, with wrapper from magazine, or reference number on wrapper, to indicate old address.

NON-RECEIPT OF MAGAZINE: Inquire at local post-office before informing us. If possible, send magazine wrapper when writing regarding non-receipt.

EXPIRY NOTICE: X on wrapper of magazine indicates subscription has expired.

Owned by the Oriental Watchman Publishing House, P. O. Box 35, Poona 1, and printed and published by V. Raju at and for the Oriental Watchman Publishing House, Post Box 35, Poona 1. 1682-72.

PICTURE CREDITS

Cover: Colour transparency by Vidyavrata. 6—Listen; 7—WHO; 11, 19, 26, 36—V. S. Powar; 12, 14—Brahm Dev; 17—OWPH; 22, 24, 25—Life and Health.

ARTICLES

FEATURES

Just briefly...

LIFE EXPECTANCY RISES

"One index of a nation's health is the expectation of life. A child born in India today can expect to live for 52.6 years as compared with 32 years during 1941-50."

The quotation, from a speech by Mr. K. K. Dass, leader of the Indian delegation to the 24th World Health Assembly, sums up the dramatic progress made by India in two decades. Some of the most devastating diseases have either been wiped out or brought under control. Standards of nutrition and environmental hygiene continue to improve. One important factor in the improvement of health in India has been the establishment of health centres. Since 1953, some 5,055 primary centres and 26,400 subcentres have been established. Each centre is manned by two doctors.

—World Health

the gift that keeps on giving...

Of all the gifts that you can give to your friend, none is greater than a way to help him live well— and live long. Here's where *Herald of Health*, Asia's leading journal on health and home, comes in. Why not give your friend a gift that will keep on giving? Give him *Herald of Health* today!

Subscription rates: 1 year—Rs. 12.60; 2 yrs,—Rs. 24.70; 3 yrs.—Rs. 36.30. Foreign postage: Rs. 4.20 per year

Lighten your home and the homes of your friends and loved ones with *Herald of Health*, the magazine that keeps on giving. Each month it brings vital information on child care, happiness in marriage, personality problems, mental and moral health, common diseases, home treatments and numerous other subjects of concern.

CUT OUT THIS COUPON AND

MAIL TODAY.

Editor
Oriental Watchman Publishing House
Post Box 35
Poona 1

Sir:

Please send a gift subscription of HERALD OF HEALTH for 1/2/3 year(s) to the following address so as to reach him/her by this date 1972

Name .....

Address .....

.....

I am sending a money order/cheque for Rs. 12.60 Rs. 24.70/36.30. Please sign the gift as from me My name and address follows:

.....

.....

.....

.....

VIEWPOINT

THE CASE FOR PROHIBITION—3

As a part of their case against prohibition antiprohibitionists often employ what may be termed "the argument of surrender". In effect they say, "You can't legislate on this. Let each man have his peg, if he wishes to."

Such reasoning is no different from the law of the jungle. Why not let each man have a gun if he wishes to? Why not let each man decide to himself which side of the road he will drive, and whether he will obey the red traffic signal? Why not let each man have his freedom to absent from work whenever he wishes to? Absurd, one may say. Yet the problem of liquor is no different. Wherever the behaviour of one affects the behaviour of the other, and thus the society at large, we have certain guidelines. Alcohol affects the society, and we must have guidelines. And hence the need for prohibition.

Liquor trade, like the cigarette trade, always talks about how good a drink is. It's "rare", "blended", "aged", and "even extra dry." A writer in *The Illustrated Weekly* (October 11, 1970) even went so far as to lament the unavailability of "good wholesome liquor,"— as if alcohol can ever be good or wholesome.

Some cynics would even suggest that "Dry law will save people's health." What they mean is that government-approved alcohol will save the people's health, while the illicit liquor destroys the health of the consumer. It's like advocating nudity to preserve chastity.

To answer the argument of surrender, let us raise a few questions and offer authoritative answers:

1. *Is alcohol a food?*

Dr. George Thomson, M.D., F.A.C.S.: "Alcohol is quite justifiably not included in the list of food essentials that are necessary and desirable for the maintenance of bodily growth, health and vigour. Nowhere between the cradle and the grave does it aid the body in the work it has to do. On the other hand, its use, either as a food or a medicine, is always beset by great disadvantages and serious dangers." "Alcohol cannot be stored in the body as is sugar; it cannot replace waste proteins or salts. Before a man could drink enough alcohol to get the equivalent of energy that a square meal would give him, he would be 'dead drunk', and liable to die of acute alcoholism."

2. *Is alcohol a health-producing agent?*

Dr. W. G. Sears: "[Alcohol] has no therapeutic attributes which cannot be more economically supplied by other agents, and it is not essential to medical practice."

Dr. Paul Dudley White, world-famous heart specialist: "I cannot myself confirm the common cliche that it [alcohol] is good for the coronaries."

Dr. Andrew C. Ivy, Ph.D., M.D., D.Sc.: "Alcoholic beverages are not necessary for the maintenance of health. If they were, you would find them included in the table of contents of our best and most authoritative books on food and nutrition. Instead alcoholic beverages are referred to in the textbooks dealing with pharmocology, toxicology, pathology, disease of nutrition and of the body and mind."

3. *Does alcohol have any sociological ill effects?*

a. According to Dr. A. C. Ivy, in a study of venereal cases, seventy-six per cent of men

who contracted the disease did so while intoxicated. This is not surprising in view of the fact that intoxication removes inhibition and judgment. In India venereal disease is on the increase. Twenty million fresh cases of V.D. are reported each year, and Bombay ranks among the ten most highly infected cities in the world. Is there any connection between liquor and increase of V.D. in India? Someone can do some profitable research on this.

b. It is estimated that one in ten alcoholics will develop mental disease enough to require hospitalization. Mental deterioration and physical ill health together affect the economic productivity of the drinker.

c. Life expectancy of drinkers is appreciably less. In a summary of the figures of forty-three life insurance companies in the United States representing two million policy holders this is the finding: "With the death rate for all policy holders, drinkers and nondrinkers together, set at a comparative figure of 100, it was noted that people who drank two glasses of beer a day experienced a death rate of 188. If they drank more than two glasses of beer a day, the death rate went up."

d. More children are born into families under the sway of liquor. This fact needs to be kept in mind by our family planning workers.

"Let me put it this way, Dad: If I say 'pot,' and you think of 'cooking'—that's the generation gap. Get it?"

Conclusion

From the arguments we have cited in this and two previous issues, it becomes clear that the case against alcohol is sound, sensible, and strong—economically, morally, and sociologically. The case for prohibition cannot be too strongly emphasized. The health of the individual, of the society, and of the country cannot afford the luxury of alcohol.

In a country struggling to overcome poverty, hunger, and disease, is it not a necessity that we have honest workers who are sober and whose mental and physical faculties are at their best, unimpaired by alcohol? In a country where liquor has swallowed up much of the advancement of the past twenty years, leaving the kisan and the labourer in miserable poverty, should we allow the temptation of excise revenue to rule the day and thus make the government a partner in the impoverishment of the people? In a country where more than three-fourths of the population are under-nourished and malnourished, should alcohol be permitted to erode the physical and moral vitality they have?

The answer is in no doubt. But the answer must be given firmly by voice and vote by the silent majority of over eighty-five per cent of the population who do not drink. India is the only country where prohibition can succeed. India can make history. "Nothing but ruin," said Gandhiji, "stares a nation in the face that is a prey to the drink habit."

"Wine is a mocker," warns the Bible. "It biteth like a serpent, and stingeth like an adder."

—J.M.F.

Ecology and Nutrition

by HILARY FOX

In our efforts to increase growth and production in our ornamental and vegetable gardens, many of us have used chemical fertilizers, and even chemical sprays. We have felt that these things are right and necessary, but much evidence is appearing to the contrary. Farmers are finding that after years of applying superphosphate to their crops, the soils are in many cases becoming impoverished, and thus are merely supporting an inferior growth of pasture. Flocks and herds are prone to disease, and, although we have some effective weapons with which to fight human ills, there is a higher percentage of degenerative diseases plaguing mankind nowadays. Even the flavour of our vegetables and fruit seems to lack that succulent sweetness one expects.

What specifically, you may ask, has caused these things to happen? Now we are arriving at the heart of the matter. The laws of nature have been broken, in particular, the law pertaining to the return of organic matter to the soil. When this law is disregarded, pests and diseases are the warning sign that all is not well with our plot of earth, and if these signs are ignored further trouble will result, in the form of erosion.

Go for a walk in a virgin forest untouched by the harsh hand of man, and you will find a thick carpet of mulch under your feet. Scrape away the top layer of unrotted material, and you will find the most precious substance on this world today—beautiful, rich, sweet-smelling humus. Take a little and examine it, microscopically, and you will find it teeming with life. This life is essential to the healthy growth of plants, as we shall see later, and therefore, to maintain this healthy growth we must keep up the supply of essential humus.

Until about 1840, good agriculturists and horticulturists did just that. The Hunzas and the Chinese peasants provide a good example of this. They have been growing good crops extensively on the same land for thousands of years. They do not have an erosion problem, and their soils are as productive as ever.

In the case of the Hunzas particularly, among whom want is virtually unknown, there is before us a

Methods of growing food plays an important role in the prevention of diseases.

wonderful example of health and longevity. Scientist R. McCarrison lived among them for some time, and was very impressed with what he saw. He noted that they composted every available scrap of organic matter and spread this over their land. This land was irrigated by water from a glacier which contained minerals in the form of crushed rock from the grinding action of the glacier on surrounding rock surfaces. They also drank this water.

For experimental purposes, McCarrison decided to feed one group of rats the same type of diet as the Hunzas, grown on compost-enriched soil, and another group of rats on the average diet of the working man in Britain, a diet largely produced with the aid of chemical fertilizers. The former group grew very large and were extremely healthy and contented while the latter group suffered the usual multitudinous maladies of the working people of that time. They were also rather quarrelsome!

NPK Formula

In about 1840 a German scientist by the name of Liesbig found that he could discover the chemical constituents of plants by analysing their ashes. He then jumped to the erroneous conclusion that these chemical constituents were all that the plants needed, and that if we supplied these chemicals, this was all we needed to do for them. It was not thought necessary to add organic matter to the soil to build up fertility. Thus was born the NPK formula (nitrogen, phosphates, potash). Huge financial empires have been founded on these theories of Liesbig, and they *flourish today, to the detriment of our soils and environment.*

After the 1914-18 war, the owners of huge explosives-producing factories looked around for an alternative use for their nitrogen-fixing equipment. They started to produce and market nitrogenous chemical fertilizers. With the accompanying advertising campaigns, these products gained an increasing hold on the market. *These substances kill the beneficial micro-organisms in our soils!* They frequently leach out into streams and kill the life in them too.

Plants will appear to grow quite well for a while on these chemical fertilizers, but they are more susceptible to disease, and upon analysis they are found to contain a greatly reduced percentage of vitamins, minerals, and proteins, and much more starch than plants which are produced organically.

As an example of this, some carrots grown with chemical fertilizers were analyzed and compared with some carrots grown organically, and the former contained 0.50 milligrammes per 100 grammes of Carotene (the substance containing vitamin A), while the latter contained 31 milligrammes per 100 grammes.

Dangerous Sprays

The susceptibility to disease of chemically fertilized plants, leads us to seek more and more poisonous sprays to combat these diseases. Many of these sprays are dangerous to use and again break the natural laws of God by killing the natural predators of the pests.

An officer from the Department of Agriculture of Australia recently said that much of Melbourne's supply of vegetable produce goes to market coated with poisonous sprays, because many of the market gardeners disregard the directions for not using these sprays within a certain time of marketing and continue to spray heavily, sometimes up till the day they go to market. These systematic sprays remain in the sapstream of the plants for some weeks. Need we say more?

Sir Albert Howard, a noted agricultural scientist of pre-war days, did some forty years research into growing crops by building soil fertility with natural manures and composts. He maintained that plants produced this way are resistant to disease *and that people and animals consuming these plants are also resistant to disease.* His cattle were fed this way and were extremely healthy—they even rubbed noses over the fence with cattle which had the highly contagious foot and mouth disease, and they did not become infected.

A group of doctors in Cheshire wrote and signed a medical testament to the effect that these natural methods of growing food, and the consumption of fresh, wholesome foods were a very important factor in prevention of disease. This was many years ago now. Why is nothing done about drawing the attention of the public to these things?

Work for Pests

Sir Albert Howard also firmly believed that pests and diseases have their appointed task, and that is

to attack and remove ailing and inferior plants and animals. He also drew attention to the life in the soil which is nourished by the humus we apply. In particular, he mentioned the mycorrhyza. These tiny fungi from a symbiotic relationship (i.e., one of benefit to both) with most, or probably all, plants. They have been proved by scientific experiment to have a profound effect for good on the nutrition and health of plants. They are thought to give fruit and vegetables that added sweetness and succulence which we mentioned earlier. *Chemical fertilizers kill these mycorrhyza!*

The Safe Way

There is a safe way of adding phosphates, potash and trace elements to the soil, and that is to buy these minerals as such, in the form of crushed rock without the addition of substances such as sulphuric acid. (Remember the crushed rock from the glacier which was deposited on the soil of the Hunzas' cultivated areas?) The phosphates applied in this way to the land are thought to be too slow in acting, but in fact very good results are being obtained by many farmers. The humus in the soil acts as a chelate, which word comes from a Greek word meaning claw. Apparently the compost particles wrap themselves around the insoluble rock particles, and literally claw out and dissolve them. Because these minerals act more slowly, they become available to the plants over a much longer period, and are not readily leached away, so that they do not need to be applied to the land so often.

Compost Recipe

Here is a compost recipe, which is basically that of Sir Albert Howard, called the Indore method. For this method, spread charcoal from a wood fire on the ground first, then add about four inches of vegetable matter, mixing coarse and fine stuff for better aeration, then two inches of animal manure. Next, a ¼ inch layer of soil followed by a fine sprinkling of dolomite or lime, or wood ashes. Repeat

---

CLIPPINGS AND COMMENTS

There is good scientific evidence that breathing tobacco smoke "second-hand" in a smoke-filled room produces electrocardiographic changes in persons with heart disease, a Loma Linda University (U.S.A.) physician said recently. Dr. Richard Walden said he is planning to use the evidence as basis for a class action legal suit against major air carriers to enjoin them from permitting smoking on airliners. Walden, assistant dean of the school of public health at Loma Linda, also cited studies which indicate that children perform intellectual tasks less well in smoke-filled rooms.

*

Alcoholism is a firmly established problem for the chemical industry. In recent years management has shifted its attitudes away from punishment and toward rehabilitation for the alcoholic employee. Companies say that about sixty per cent of those treated are helped and are able to hold jobs and that often the rehabilitated worker does far better work than the average.

*

There are about 108 million licensed drivers in the U.S. today. This is approximately 75 per cent of all people in the country 14 years or older.

*

Venezuela's now hunting laws to protect wild animal life forbid under any circumstances the killing of singing-colourful birds; any animal that may be beneficial to agriculture, forestry, cattle breeding or public health; any animal that produces something useful without killing it; animals belonging to rare species, non-edible animals or those which produce nothing useful.

*

One slice of whole-grain bread contains more nutrients than ten slices of white "enriched" bread. Also, one slice of whole-wheat bread contains ten calories fewer than one slice of white bread.

---

these layers until you have a heap about five feet high. The heap should also be at least five feet wide by five feet long to enable it to heat up satisfactorily. The next thing to do is to make holes down the centre every two feet with a crowbar. Waggle the later around till you have a hole about three inches across. Cover the heap with boards, or straw and plastic sheeting with holes punched in it if it needs protection from wind, direct sun or torrents of rain. Build the heap in a rather shady spot, thereby encouraging the growth and reproduction of myriads of micro-organisms. You must thoroughly dampen each layer as you make your heap, but do not waterlog it. It should have the consistency of a wrung-out sponge. Turn the heap, putting the sides and top into the middle of a new heap, after about a week. Add extra water if needed, or if it is too wet add a little dry soil, and turn again within another three days—ordinarily it would be turned again after another week.

If we are eating produce from chemically fertilized soils we are eating food which, apparently, is greatly inferior in its vitamins, minerals and protein content, which has in place of the above essential elements, a higher percentage of starch: this is making the peoples of the world vulnerable to every kind of disease, and *this inferior food frequently goes to market liberally impregnated with poisonous pesticides.*

Easy Gardening

Original and non-toxic methods to eradicate the few pests which appear in organic gardens, include: marigolds which repel numerous pests including memotodes, and garlic which aphids loathe. Another item of interest in these busy times is that after one has laid down a layer of compost among one's plants, one can then lay a six-inch layer of mulch—old hay, straw, seaweed, etc., to keep in the moisture and smother weeds. Result—easy gardening.

There is an elderly woman, Ruth Stout by name, who writes articles about mulching in the American magazine *Organic Gardening and Farming*, and after years of growing her vegetables by these methods, she rarely uses a hoe or spade. Her soil is extremely friable now, and she merely adds a new layer of mulch each spring. Apart from that her activities are relegated to planting and harvesting—to plant potatoes she simply lifts up a little mulch and places the seed potatoes on the soil surface, then repeats this process in reverse, to gather the crop when it is ready! From my own experience, these methods really do work wonderfully and obviously gardening with these methods is a very satisfying pastime. ***

beat your daily

MARK Twain once observed: "I am an old man and have known a great many troubles—but most of them never happened."

Experience of life over the years reveals that most of the fears and worries which beset everyone from time to time are needless. But even if we are aware of that, most of us cannot refrain from worrying occasionally about troubles that "never happen" in our daily life, in our work, and in our business activities.

Is This Stress Necessary?

A forty-eight-year-old production manager complained of constant fatigue and shortness of breath. A medical check-up revealed that he was organically sound, but he showed signs of extreme nervous tension, high blood pressure, and a moderate overweight.

He confessed. "I haven't taken a holiday for the last five years. When I took over production there were so many problems to untangle that it's taken all my time and effort just to keep going."

The doctor warned him that the habit of working long hours day after day under tension was likely to lead to a breakdown. He followed the doctor's advice to lose weight, made some changes in his daily routine, relaxed over week-ends, and went fishing again.

Six months later he had lost fifteen pounds, and his blood pressure had dropped. He was rid of that worn-out feeling, and said with satisfaction: "I get more work done now, with far less strain. My family and I, we are all enjoying life again."

TENSION

by Dr. W. SCHWEISHEIMER

A certain amount of concern is a natural part of our daily lives. It pushes us to get things done, and makes us aware of what would happen if something were not done. Worry, in the normal sense, means protection. *If we did not worry about insulated electric wires or faulty car brakes, the consequences would be disastrous.*

One word may chase the worries away. The famous internist, Dr. Walter C. Alvarez of the Mayo Clinic, emphasizes that one of the great sources of worry and distress among wage earners comes from their uncertainty as to their status. In every big company, he says, there is a great need for a "pat-on-the-back" department, headed by some official who, each month, will go through the plant saying to certain men: "Your work is good and the 'old man' is pleased." Without such reassurances, even a man who is doing good work may worry himself into illness.

Normal Concern

Dr. Alvarez remembers a bank cashier who went to pieces nervously when he saw more than six persons lined up in front of his window. He had to point out to him that since he could attend to only one at a time, it was foolish to worry about the others in the queue.

Normal worry easily changes to pathologic anxiety. Such conditions require professional help. Sometimes we worry to the point where we cannot enjoy what we are doing *now* because of worry about *what we ought to do next* or what *we should have done earlier*. This is the kind of worry that must be controlled or channelled.

How to Fight Worry

Worry is a main cause of nervous illness. Those of us who have inherited the tendency to anxiety should make a great and conscious effort to fight it, says Dr. Alvarez. We should always remember that most of the things we have worried about, in fact, never actually came to bother us. That ancient advice not to cross a bridge until we come to it, is still good and valid.

Everybody experiences tension that cannot be helped. The important thing is to know how to handle them. Here are eleven ready-to-hand actions recommended by Dr. George S. Stevenson, medical consultant, National Association for Mental Health in New York. They are meant to make life more bearable, even for nervous and keyed-up people.

1. When something worries you, talk it out. Talking to other people helps to relieve the strain and put the worry in a clearer light.

2. Escape for a while is recommended, not permanently, but just until you are in a better emotional condition to deal with the problem.

3. Work off your anger, your fears, and your anxiety, by doing something constructive, such as gardening, or some other do-it-yourself project.

4. If you find you are frequently getting into quarrels, maybe you need to give in occasionally.

5. Stand your ground when you know you are

To page 33

GUIDANCE, NOT FORCE

Tiny tot, or a rebellious teen, your child feels he must have control over life. He is sure that he knows more about anything than you do. How should you react?

by HAROLD SHRYOCK, M.D.

A young mother whose first child was about a year old wrote me to ask about child training. "I want to do well by our little Ravi," she said, "and train him so that he will be able to meet life's realities successfully." Then she asked, "What suggestions can you give me on the best methods of child training?"

This young mother's appeal was commendable. Would that all parents of small children took their responsibility as seriously.

However, I was a little troubled over her use of the words *child training*. I wondered whether she had in mind some programme of rigid discipline that might be comparable to what is used in an obedience school for pet dogs.

I see a great difference between a parent preparing his child to live successfully and the much simpler task of training an animal to be submissive to the desires of its master. The owner of the animal provides the intellect, judgment, and plans for the future. The animal carries out largely in puppet fashion what the master determines for it.

In the all-important task of rearing a child, the goal is quite different. The discerning parent is concerned with much more than model behaviour. Understandably, he wants the child to be polite and to conduct himself well in the society of other people. Over and above this aim, he wants to stimulate the child to develop his own intellect, judgment, and ability to make wise plans for the future. Rather than expecting the child always to look to his parents for direction, he wants him to become able to face life successfully on his own.

I am acquainted with a man

more than 30 years of age who blames his mother for having handicapped him in his adjustment to adulthood. It is not that his mother neglected him—far from it. He says she dominated him day by day and made every decision for him. She insisted on obedience, and she commended him as he grew up because she could always depend on him to do what she specified that he do.

This mother even chose the life-work of her son, and forced on him the thought that she had dedicated him to a certain work. As he grew to manhood he tried to be what she chose, obedient son that he was, but he did not possess the qualifications for this work. After he had passed through the disappointing experience of abandoning the career, he confided to me that he was happy in his work of landscape gardening.

"I have always liked this kind of work," he told me, "and I wish I had followed my own inclination from the start rather than trying to comply with my mother's preference for me."

He even blamed his disappointment in marriage on the handicap he carried as a result of having been dominated during childhood.

"I never made my own decisions," he recalled, "for my mother always made them for me. When I became a husband, my wife properly expected me to take the lead in our affairs. Because I had had no experience in making major decisions I had to rely on her to direct us. She lost respect for me, and I admit that I hardly blame her."

With two extremes to be avoided —dominating a child to the extent of suppressing his individuality, and letting him grow up without guidance—parents should find a reasonable position from which to develop their policies for the home.

Reasonable Position

There must be rules. In order to become a good citizen a child must be taught to respect authority and render obedience to the rules of the home and laws of the land. In addition to these, the law of moral principles form the basis of character building.

Home rules should be founded on principle rather than parents' preferences. They should be few so as not to confuse the child, to encourage his comprehension of the principles stated, and to help him apply them to the events of every day. They should be age adapted, for as the child grows older and his personality becomes more mature, many of the specifics can be dropped from the list in order to allow him a choice in life's details.

The purpose of rules is not to force a child to surrender his individuality. They should guide rather than dominate; they should teach fundamentals of character rather than enforce conformity.

So long as there are rules there must be penalties. As soon as a child is old enough to understand that there is a rule to be kept, he is old enough to benefit in character development by receiving punishment when he disobeys.

Punishment must be carefully planned and consistently administered. A threat of punishment does not suffice. Once a penalty is announced it must be fulfilled when a rule is broken. Otherwise, the child develops the unfortunate attitude that each time his infraction does not count. Parents who threaten but do not carry out their threat are effectively spoiling their child, for spoiling consists of excusing a child from the just consequences of his conduct. Only by consistently enforcing rules can the child learn that life's rewards, good or bad, are earned. This is one way he learns to reason from cause to effect.

Even before a child is old enough to start school he becomes able to share in choosing the punishment that best fits an infraction. Such experience helps him develop responsibility.

Punishment

Dr. Kathryn Hagen, pædiatrician, tells of a four-year-old boy who rated punishment. He and a playmate carried dirt from the garden and strewed it on his front porch.

On discovering what he had done, his mother offered him a choice. "Either you have a spanking, Johnny, or you sweep the dirt off the porch. Which will you choose?"

After a moment of quiet reflection, Johnny announced, "I'll thweep."

A child's emotions need to be guided, not stifled or ridiculed.

To page 30

Secret

IT is a well-known fact that the natural human desire is to stay young, and to avoid growing old too soon. We learn that to stay young we must know how to make the most of our time, especially in the years of retirement following an active and vigorous life. The problem is particularly acute with men who have been in business or industry.

City dwellers are not so fortunate, especially in the case of men who have been trained for only one job. When such a man retires he is often at a complete loss, not knowing what to do with his time. That is why people in middle life need to be continually developing new skills, and finding better ways of doing things. The time will come when they may need those skills, either to earn a living, or to make life more pleasant during their older years.

Young people are adaptable. They can accept changes without much trouble. But older folk always find this more difficult, unless in earlier life they have developed the habit of finding new ways of doing things. Such an attitude will keep a person young and able to cope with the changes of later life. The human mind cannot tolerate idleness and empty living for long. Unless well occupied, it will deteriorate rapidly.

What About Entertainment?

Some feel that the problems of older folk can be solved rapidly by providing various forms of entertainment. While this may be true to some extent, still we must remember that *entertainment is not the complete answer*. Nor will it fill the gap caused by the lack of productive work.

Most men are ashamed of idleness, especially if they are the type who have carried heavy responsibilities in earlier life. Such a man will probably feel somewhat guilty about being entertained. When he retires he is more likely to want to keep busy at some kind of useful *work*. To assure himself of this he must begin to train during the middle years, rather than waiting until he retires before making some plans for the future.

Suggestions for Staying Young

To stay young one must learn to choose *a well-balanced diet*. This is most important for health during one's later years. Too many elderly people are searching around for some pill or tonic or some injection that will rejuvenate their flagging energies. These are rarely the answer. Our bodies need simple, wholesome foods to build and maintain the highest peak of efficiency. We must learn to make the right choice, not only during the older years, but all throughout life. Sensible habits of living will mean

# of Staying Young

by CLIFFORD R. ANDERSON, M.D.

far more than any pill or tonic, regardless of how highly advertised it may be.

Another factor in staying young is to develop some *useful hobby.* Many an older man has found great enjoyment in having a small workshop, even though he may never have had one of his own before. It might even be possible to develop some hobby that will actually bring in some much needed cash. This would be a boon to many elderly people. The man who is wise will not wait until he is old before planning some hobby. He will find one now.

Another way to stay young is to maintain a normal amount of *exercise.* Actually we begin to "grow old" quite early in life, probably around twenty years of age. These are the years when we are physically at our best—capable of earning a good living. From here on the path is gradually but steadily downward. We are not aware of this at first, but later it becomes more evident.

As we grow older our organs function more slowly, our muscles lose some of their flexibility, and our bones become somewhat brittle. By keeping physically fit many of these changes can be avoided until perhaps the very end of our days. A reasonable amount of exercise is most important all through life. Not that one should suddenly become extra vigorous in his later years. This may lead to serious trouble. But a person must exercise if he plans to stay well.

The final suggestion for older folk is to *THINK YOUNG.* Many people are old in mind while they are still young in years. Others remain youthful in spite of the passage of time. Those who get the most fun out of life must train themselves to look continually on the brighter side of life. Such people are optimistic in spite of every handicap. While it is true that one might have an occasional pain or disability, still we have much for which to be thankful. There is no use worrying over the past. We cannot change it. But the future is still ours to enjoy. Then let us all plan to live a healthy, happy life from now on. This is the most effective treatment for any kind of disease.

Many centuries ago King Solomon wrote these famous words, "A merry heart doeth good like a medicine." Every doctor can testify to the truth of that statement. A cheerful, optimistic attitude is excellent medicine for whatever ails us. We have all known people who were so seriously ill that no one expected them to live. Yet they managed to pull through in spite of their seemingly hopeless condition. It was their *will* to live that made all the difference.

On the other hand, we have seen people with some minor illness from which they should have quickly recovered, yet they died in spite of all that medical science could do to save them. Why? Because they simply had no will to live. When the patient himself gives up there may be little that doctors and nurses can do to save him. So if you are sick, do not become discouraged. Determine right now to do all in your power to help yourself. This will aid your doctor in helping you back to health.

Successful living depends not only on our choosing the *right diet,* with the right minerals and vitamins, important as they always are. It is equally important for us to maintain a *wholesome attitude* toward the world around us. To stay young and healthy we must choose both aright, and in so doing

To page 34

Your Radio Doctor

No More Problems for Rh Babies

Good news for Rh-problem parents. Reaction in baby can be prevented beforehand.

by RAYMOND H. GOODALE, M.D.

A young mother with Rh negative blood who had just delivered her first baby smiled through her tears when her obstetrician informed her about a new method to prevent Rh disease. On the day of her delivery researchers released the new method for general use.

This young wife was partner in a marriage with Rh incompatibility. Early in her pregnancy her doctor told her she had Rh negative blood and her husband had Rh positive blood, a combination resulting in Rh incompatibility, which could result in Rh disease in all her children except the firstborn.

Two days after delivery this mother received a muscle injection of the new immune globulin, which practically guarantees that Rh negative mothers will not have babies with Rh disease if the mothers receive immune globulin after each delivery or miscarriage.

Doctors have known about this strange malady for about thirty years, but until recently they have had no means to prevent it. Medical researchers in the past few years have developed an immune globulin that doctors now use to prevent Rh disease.

Medical books call Rh disease erythroblastosis fœtalis. It is a form of anæmia. If you lack the Rh factor so that your blood is Rh negative and your husband has the Rh factor so that his blood is Rh positive, the combination is marked by Rh incompatibility. If your babies inherit the Rh positive factor from your husband, all of them except the first could have Rh disease.

Now a muscle injection of the new globulin preparation within seventy-two hours after delivery of your first child prevents Rh factor disease in your next child. Because the effect of the globulin is only temporary, you must have an injection after each delivery or miscarriage.

Erythroblastosis fœtalis is a strange disease, because there is nothing wrong with the Rh negative mother or her unborn child. Here is what happens. If the baby is Rh positive, his blood cells filtering through the placenta into the mother's circulation about halfway through pregnancy stimulate the manufacture of antibodies. When the first baby is born he does not develop the disease, but the antibodies continue to circulate in the mother's blood and constitute a threat to all future children.

The danger level is likely to increase with each future Rh positive pregnancy. The antibodies seep back through the placenta into the baby's blood and break up the red cells faster than the bone marrow can produce them. The result is anæmia, or Rh disease, in the baby, which untreated will cause physical or mental damage or even death. That fact is chilling to an Rh-problem mother.

In 1939 Dr Philip Levine—a gifted pupil of Karl Landsteiner, discoverer of blood groups—made certain observations that later led scientists to discover the cause of erythroblastosis fœtalis.

An intragroup transfusion reaction (group O blood given to a group O patient) led Dr. Levine to look for and discover an abnormal antibody in the blood of the recipient. She was a woman who had recently delivered a stillborn infant. Because she had bled profusely she had been transfused with her husband's blood, a practice that is no longer permitted.

Dr. Levine theorized that the woman may have become sensitized and developed an antibody to an unknown factor in the red blood cells of her infant. This factor, foreign to her, probably was inherited by her baby from the father. In the next two years he saw several additional transfusion reactions in women who received the correct blood group but had given birth to infants who had œdema or anæmia and jaundice. With these observations he postulated that an unusual maternal antibody could cross

the placenta, destroy the baby's blood, and produce the anæmia already known as erythroblastosis fœtalis.

Dr. Levine's conclusions tied in with the work of Landsteiner and Wiener on genus rhesus monkeys. When they gave rabbits or guinea pigs injections of blood from these monkeys, the animals produced antibodies that would clump the red cells of all the rhesus monkeys tested in the experiment and eighty-five per cent of the white humans tested. The factor got the name Rh from the first two letters of the word *rhesus*.

The human cells that this rabbit serum could clump were called Rh positive. Those that the serum could not clump were called Rh negative. Wiener and his associates published information showing that this factor was identical with that which caused transfusion reactions in women sensitized by cells of their Rh positive fœtus.

For several years the treatment of Rh disease was to give replacement transfusions at birth. In doing so the doctors drew off the baby's anæmic blood and replaced it with good blood from an Rh negative donor. This procedure decreased the amount of the agent that was breaking up the baby's blood cells and increased his chance of going on to healthy babyhood.

Rh negative mothers and their babies now have a happy outlook, thanks to the production of an immune globulin called RhoGam. Drs. Vincent Freda and John Gorman of Ortho Research Foundation (U.S.A.) collaborated in its development.

These researchers reasoned that if specific ready-made antibodies were introduced into the mother's blood, her body would not make its own active antibodies. They conceived the idea of injecting serum containing ready-made Rh antibodies into Rh negative pregnant women. They tested it for five years, and it seemed to work. It prevented Rh disease in ninety-nine per cent of cases.

RhoGam is Ortho's trade name for a gamma globulin fraction loaded with Rh antibodies. Injected into the muscle of an Rh negative mother not more than three days after the birth of each baby, it curtails her normal antibody-making mechanism, thus preventing her from developing her own antibodies and transmitting them to her next baby.

The discovery of the efficacy of RhoGam is a landmark in medical progress. In another generation a danger that has threatened the childbearing potential of many women will have passed. Erythroblastosis fœtalis—newborn anæmia—and its treatment by exchange transfusion will be of historical interest only. ***

Protection for the Millions

by Dr. GEOFFRAY EDSALL

Since the first hesitant employment of vaccination as a general health procedure much has been learned, but much still remains to be known. Millions have been protected against such killing diseases as diphtheria, tetanus, smallpox and polio. Protection has been afforded against the "white plague"—tuberculosis—and against measles, which, however, goes on killing children in the developing countries. Other vaccines work less well but are being improved, as in the case of cholera and plague.

However, the world-wide acceptance and use of immunization to control infectious diseases has led too many people to assume that all the problems of immunity have been solved. Almost every public health programme has set up a schedule of vaccinations, and in private practice the physician usually keeps a chart of what immunization a child has received and which he should receive next.

In addition to the usual vaccines, there are vaccinations when needed against yellow fever, typhus, cholera, enteric fevers, plague, Japanese encephalitis, tularemia and, for those working with animals, brucellosis, anthrax and leptospirosis. Investigators exposed to rare diseases while carrying out laboratory studies may be protected by immunization of certain kinds.

Yet many questions remain to be answered concerning immunization. Exactly when to begin routine immunization of infants is still being discussed. The correct number of doses has not been fully established for certain vaccines. Sometimes the most effective preparation to use is still under study and more remains to be known concerning the way in which the best protection can be obtained with any given agent.

Many different types of preparations are used, varying with the nature of the disease, the state of progress in the preparation of vaccine, and other considerations. The most effective vaccines known are certain of the live attenuated virus vaccines, such as those used against yellow fever and measles; these produce a mild infection in the person vaccinated which stimulates his entire immunity system to react against the virus, and provides him with a long-lasting, sometimes life-long immunity. Almost as effective as vaccines made from bacterial toxins which have been modified so that they are no longer toxic but will still immunize, e.g. against diphtheria, tetanus or botulism. The best of

these modified toxins, or "toxoids", as they are widely called, is tetanus toxoid, which gives well over ninety per cent protection when properly used. Less effective are vaccines made from killed suspensions of whole bacteria. These suspensions actually include many antigens, only a few of which are essential for an effective immunity. Many of the other antigens are not unessential but often undesirable. Such vaccines, like the toxoids, require repeated injections in order to build up the immune response to a level high enough to be protective.

For a few bacterial diseases, live attenuated vaccines have been developed, analogous to those mentioned above for measles and yellow fever, which will multiply in the body without doing damage and thus liberate sufficient antigen to produce an effective degree of immunity. The effectiveness of this immunity may be enhanced by the fact that these antigens are intact, instead of being altered by chemical or physical forces, as is done in the inactivated vaccines that are treated with heat, phenol, etc. Some of these live bacterial vaccines, e.g. BCG, seem to work, not by producing immune substances or antibodies in the serum of the vaccinated person, but by altering the activity of the scavenger or phagocytic white cells in the body so that they are alerted to the menace of similar virulent organisms, should they enter the body in the future. This is called "cellular immunity".

For many immunologists, the ideal vaccine would be based upon a highly purified substance derived from the microbe causing the disease, and capable of inducing a vigorous immune response in the body without causing undue reactions. Others, however, believe that the ideal vaccine will usually be an attenuated living agent, selected or modified for characteristics that enable it

to multiply in the body without causing illness. In either case, extensive research is needed to reach these objectives. Attenuated vaccines present several problems since they are generally unstable, are easily destroyed by heat, and sometimes have a tendency to revert to their original virulent state, so that their use must be carefully monitored to ensure that they continue to be safe. Therefore a chemically purified antigen derived from the microbe in question has in some cases (e.g. anthrax) replaced the earlier use of attenuated vaccine.

Much remains to be learned, however, even after the immunochemist has prepared a purified immunizing antigen. How much antigen is optimal for producing a good immune response? In what physical state will it be most effective—fluid, absorbed on mineral substances, linked into large molecular complexes, or modified in some other fashion? Various organic or inorganic substances called adjuvants can be used with antigens and will enhance the response to them, to varying degrees and for varying periods of time. All of these alterations change the ability of a substance to produce an effective immune response, but their influence is not the same for each kind of antigen. Therefore careful study is required to determine the way in which to prepare antigens so that they will be most effective.

There are many other factors that play a part in determining the efficiency of active immunization. The route of inoculation and the intervals between successive inoculations have a great influence on the response. The age at which immunization is started may also be important, not only because of supposed immunological immaturity in very young infants, but also because of the transplacental passage of maternal antibodies, which in certain cases can interfere with immunization started too early in infancy.

It has recently been discovered that in certain diseases the production of antibodies in the serum may be useless. The diseases to which this effect applies are, in general, diseases of the mucous membrane surfaces, e.g. the bronchial tract and the gastrointestinal tract. The recent discovery that there are special IgA antibodies, somewhat different in their structures from serum antibodies produced locally and capable of acting directly upon infections of mucous-covered surfaces, has opened up a whole new area of research which has already greatly altered the approach to immunization against diseases.

The factors mentioned above are only a few of those indicating the need for further knowledge of basic immunology if its application in immunization or in other problems is to be made most effective.

Not only does the future development of vaccination against infectious diseases depend on the preparation of effective antigens, but it also depends upon the knowledge of when and how to administer them, at what age and, whether they can be combined with other antigens. These and many other questions can only be answered through an understanding of basic immunology. The dramatic success of oral immunization in poliomyelitis emphasizes the need for the research necessary to discover whether oral immunization can be successful in cholera, typhoid and other enteric infections.

In closing, it should be emphasized that some vaccination procedures have been so successful that they have caused the virtual eradication of various diseases. For instance, in 1967 smallpox was found in fifty-two countries, but by 1970 it still existed in only twenty-three countries. The incidence of smallpox on a global level fell from 131,000 to 30,000 cases from 1967 to 1970. This has been almost entirely due to vaccination. ***

Low-Back Pain

by J. DeWitt Fox, M.D.

It is a sad fact that eighty per cent of us will have back pain at some time during our lifetime. Some of this discomfort will be so-called postural pain, and later in life it will be called degenerative pain. If it becomes severe it may cause leg pain or sciatica.

Those who have become afflicted with the sedentary disease known as sititis and have become allergic to exercise will find their backs have taken the brunt of the resulting slumped posture. Because we spend half of our lives sitting, standing or slumping, our big back muscle have been allowed to grow flabby and soft.

If you doubt this statement, analyze how much time you spend sitting, without using your back muscles except to keep you upright. You sit to eat, you sit to do your office work, you sit to drive your car, you sit to watch sporting events, you sit or slump in a soft chair to listen to your radio. Because of all this sitting and very little walking, swimming, bicycling, or other activity that puts your big back muscles to work, your back suffers. As the large antigravity muscles, the *eractors spinae* muscle groups alongside the vertebrae, lie down on the job, swayback follows. If the lumbar curve becomes too great, actual slippage of the last lumbar vertebra may occur in some patients. This is called spondylolisthesis.

Specifically, what can you do for backache?

You can strengthen your back muscles. Do not allow the weight of the body to fall on the ligamentous structures, the discs, or the nerves as they emerge from the spine. Weak back muscles are the precursor to herniated lumbar discs. Also the back that is unaccustomed to exercise, when asked to bear an extra strain such as a load of groceries, has trouble supporting the body weight and the groceries too, and lumbosacral strain may occur.

Your back is made like a string of blocks, one riding upon the other, with little discs to act as shock absorbers between. It is shaped like the letter S but must act like a rod to support the body. To do so, certain muscles serve as guy-wires to support the spinal pole. They are the strong back muscles of the sacrospinalis group, which are balanced against the abdominal muscles in front.

Anything you can do to cooperate with gravity in keeping your back erect will take the strain off the ligaments, discs, and nerves, thereby relieving pain. The ligaments and nerves are the prime pain tissues of the spine. The secret of eliminating low-back pain, then, is proper posture and strong back muscles.

Look at posture first. Stand in your bedroom tonight in front of a full-length mirror. Now turn to the side. Do you have a sway in your back? A normal curve is natural. If it is increased, however, it contributes to shortened and tightened back muscles, a protruding abdomen, and a forward-tilted pelvis.

If you have back pain and swayback, the pelvic-tuck exercises will help correct this tendency and relieve your back pain. Here they are: (Illustrations, on page 22.)

1. The Straight Wall Exercise. Stand against a wall. Try to make your back as straight as possible by squeezing the gluteal (buttocks) muscles tightly. Push your head toward the ceiling.

Note how this stance rolls the

pelvis under and flattens the abdomen and the low back. It feels good too.

2. The Back Bridge. Lie face up on the floor with knees flexed. Raise your back from the floor as high as you can. Slowly roll back to the floor and rest with your back as flat as possible.

Note how this exercise rocks the pelvis upward toward your navel and tightens stomach muscles as well as back and buttocks.

3. The Leg Flexor. Draw your knees up to your chest. Roll back and forth, making a rocker of your back.

This exercise stretches lumbar muscles that have been shortened by standing in a swayback posture.

4. The Lumbar Roll. Lying flat on the floor, draw your knees up and then roll to a sitting position. This movement puts a strain on the abdominal muscles without putting a strain on the back iliopsoas muscle.

Because a tight abdomen takes strain off the low back, this exercise is a real help in eliminating back pain.

5. The Tummy Tightener. If you wish an easier exercise with which to begin, raise only head and shoulders from the floor without sitting up completely. To prevent strain, avoid initiating the exercise with your head. Let it follow the shoulders.

6. The Flat Floor Strengthens: Relax with your arms above your head and your knees bent. Tighten the muscles of your lower abdomen and of your buttocks at the same time so as to flatten your back against the mat. Hold for the count of ten. Relax and repeat the exercise.

When we consider the spine as a spring, it is not hard to imagine how it can be compressed. As we grow older, the discs between the vertebrae tend to degenerate, dry out, and flatten. This is why older people shrink, as it were, in stature and may actually be several inches shorter at seventy than they were at twenty. As degeneration takes place in the disc it may become weak, the inner *nucleus pulposus* may bulge through the annulus and eventually come to press on a nerve, causing intense pain. Or it may simply stretch the *longitudinale posterius* ligament and produce severe back pain. In either case, the muscles if kept in tip-top condition can take much of the strain off discs and ligaments and thereby relieve back pain.

The case for back exercises in modern man is a good one. We all want to keep as agile and active as possible and not suffer the ravages of growing old. Until we get off our seats and start moving and exercising again we are destined to continue to suffer from back trouble.

One other sad result of sititis is overweight. As we increase the paunch in front we increase the strain in back, because the abdominal muscles are actually sling muscles which originate in the fascia of the back, and put an added strain on the back.

So, to release the extra strain on the back muscles, reduce the extra pounds on your stomach.

Mechanically, man's proud posture is maintained by strong abdominal and back muscles. A heavy stomach does not lend itself to tight abdominal musculature. In fact, as the abdominal muscles overstretch, the pelvis tilts forward, and the back begins to say "Ouch." Weight loss, diet, and exercise programmes are another way for the overweight person to reduce back pain. ***

If you have back pain and swayback, proper exercise will help correct this tendency and relieve your back pain.

HERNIA

One-day Repair

by JOSEPH GASTER, M.D.

A hernia is a tear or a weakness in the inner abdominal wall that permits an internal organ to protrude through it.

In the male embryo the testicle descends from an internal position through the inguinal canal in the groin down and out into the scrotum. In its descent the testicle carries with it a sleevelike tube of peritoneum (inside lining). Before birth this open tube unites with the surrounding tissues and disappears. In the few male children for whom it fails to disappear it leaves an open tube called a congenital hernia.

In the vast majority of cases this fuses and disappears, but it leaves a weakened area. If this area is later torn open, it will result in an indirect inguinal hernia. In the centre of this area is another weak spot. When it is torn open it results in a direct inguinal hernia. Below the groin is a third weakened area. When it is ruptured it results in a femoral hernia.

A fourth area of weakness in the abdominal wall is at the navel. When it ruptures it results in an umbilical hernia.

The anatomy of this area can be simplified by visualizing the flat muscles of the abdomen and their associated structures as supporting the internal organs. Hernias (ruptures) occur in the four areas mentioned because structures supporting them are weak.

Increase in Pressure

Any increase in pressure within the lining of the abdominal walls can tear open the supporting structures and result in a hernia. The causes are chronic cough, straining due to chronic constipation, heavy lifting, and similar stress.

The typical history of hernia begins with a man at work who lifts a 200-pound weight and feels a sharp pain in the groin, pain so severe that he puts the weight down immediately, is unable to continue working, feels sick to his stomach, and breaks out in a cold sweat. In a day or two he sees a physician who diagnoses hernia. If the man is not overweight, a lump may be visible in the groin.

Not all these elements need be present for the man to have developed a hernia. Some hernias develop without symptoms, and the patients are not aware of them, especially if the lower abdomen is fat.

In thin patients a lump is visible at the site of the hernia. In other patients examination may show a round or a sausage-shaped mass protruding through the outer ring in the groin. Coughing or straining may be necessary to make the mass protrude. A dilated or widened outer ring alone is not a hernia, and it is normal in some patients. There must be a lump before a diagnosis of hernia is made.

Early Stages

In the early stage every hernia begins as a small protrusion and its contents are reducible. As time goes on, hernias increase in size. When the organs (intestine or lining) cannot be readily replaced into the abdomen, the hernia becomes irreducible, or incarcerated. When a hernia becomes incarcerated, there is the danger that the intestine will become blocked (intestinal obstruction). This condition results in pain and vomiting. Another, more lethal, complication results from swelling, which cuts off blood supply and results in strangu-

lation. Strangulation produces gangrene or death of that part of the intestine. Gangrenous intestine contains millions of bacteria, which will produce peritonitis (inflammation of the abdominal lining) and possibly cause the death of the patient.

Those are the progressively dire consequences of neglected hernias. It is for these obvious reasons that all hernias should be repaired as soon as possible. We are all familiar with the old adage that a stitch in time saves nine. I take the liberty to modify it and say, "A stitch in time saves ninety-nine and may save your life."

The standard surgical procedure for hernia requires a general anæsthetic, one week in the hospital, and six to eight weeks' disability. Complications are nausea and vomiting, difficulty with urination, lung complications, recurrence of previous hernia, and other problems.

One-day Repair

However, improvements in technique used in the one-day hernia repair have resulted in a safer operation and stronger repair. These improvements include the use of local anæsthesia, which is the safest anæsthetic because it avoids nausea, vomiting, and urinary and lung complications; special instruments that have been devised to make the operation safer than it used to be; and the use of permanent sutures with a special overlapping type of surgical repair and three layers of double stitching, which result in a strong repair. This repair can be tested by the surgeon under direct vision while the wound is still open by having the patient cough or strain.

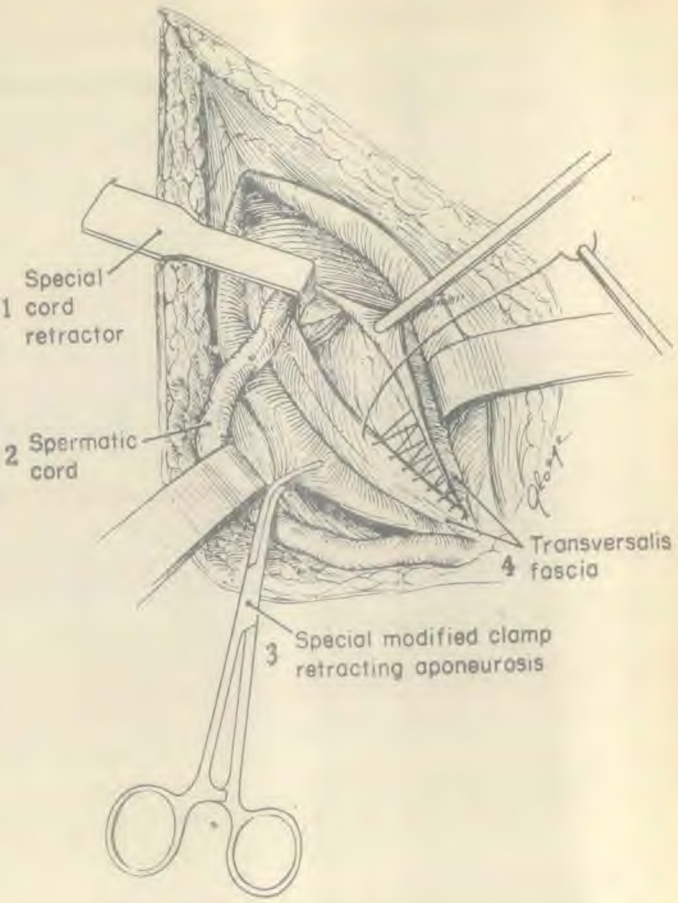
The patient usually has a light lunch and is out of bed and walking one to two hours after the operation, and the physiotherapist starts him on a series of mild graded exercises.

Some patients feel so good they request discharge from the hospital several hours after the operation. I do not encourage this, however.

The next morning the exercises are repeated, the dressing is removed, the patient leaves for home. Only rarely may an additional day in the hospital be advisable. The sooner patients can be removed from the hospital the more rapid is their convalescence.

Return to Work

Three elements are involved in the decision as to when the patient can return to work.



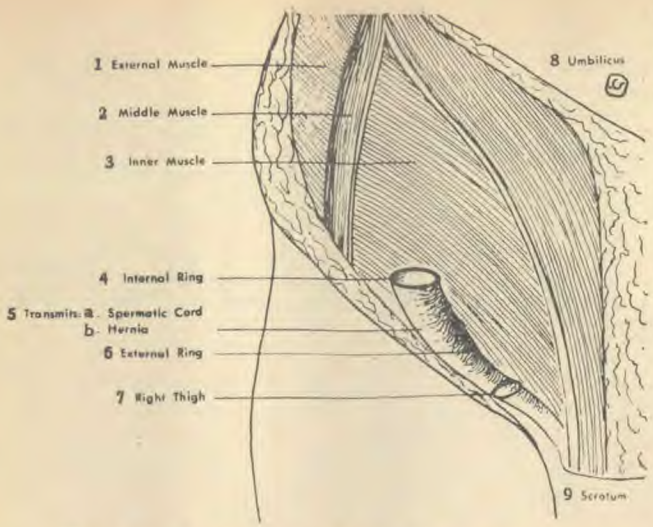
1. The first element is that the strong repair gives only a short period of temporary disability. White-collar workers can return to work on the second or third day after surgery. Men doing heavy manual work are able to return to work in seven to fourteen days.

There is no permanent disability.

2. The second element relates to the patient's emotional response. Will he dwell on his discomfort or will he ignore some discomfort? What is his endurance for pain? In some patients with hernias that are compensable, post-operative symptoms of skin numbness or pain in the incision, testis, back, hip, or leg, may be bizarre or persistent. Such a person may have an emotional need for pain and disability. Subconsciously he may resist relief and thus require a period of disability inconsistent with the surgical operation.

3. The third element is motivation. Self-employed patients generally return to work in less than one week. Disability payments do not motivate a person to return to work early. In fact, a reverse incentive is created by "reward" for illness.

The patient is examined at frequent intervals until he returns to work and at decreasing intervals



The latest techniques in hernia surgery saves days of hospitalization.

thereafter. The scar is checked after six months, and then annually for at least five years. A ten-year follow-up report is obtained if the patient wants it. This long-range follow-up is necessary because the recurrence rates in standard hernia-repair techniques vary from ten per cent to thirty per cent, sometimes higher. Because of the high rate of recurrence, it is erroneous to consider the repair of a hernia as a relatively minor or simple surgical procedure.

Now that I limit my practice to hernia surgery, I often see the multirecurrent hernia, which has been repaired elsewhere one to five, six, or seven times.

Special Surgery

Best results can be obtained only by surgeons with much experience in this special surgery. The groin is a complex region, and thorough knowledge of the anatomy and the intricate essential reconstructive procedure is necessary to attain a greatly reduced recurrence rate. With the improved, stronger repair described above, the recurrence rate has been found to be less than one per cent. This small recurrence figure results in a ninety-nine per cent cure rate in more than 1,000 patients studied.

The penalty of procrastination in hernia is greater incidence of complications such as incarceration (irreducibility), intestinal obstruction, strangulation, and their resulting mortality. Because of this, hernia has often been called a wolf in sheep's clothing.

Thousands of hernia sufferers procrastinate by wearing trusses because of fear of the necessary surgical repair, because they think they cannot afford the operation, or because they cannot set aside the six to eight weeks necessary for the standard operation. The inevitable result is that the hernia gets larger or complications such as strangulation intervene. Large hernias produce a high rate of recurrence, and complications produce avoidable sickness and death.

Over the past fifteen years I have been able to improve hernia repair in several areas:

1. Local anæsthesia is the safest, and it prevents complications.

2. Special overlapping repair with continuous special sutures makes the wound strong immediately.

3. Immediate ambulation and a special series of graded exercises restore the patient's strength.

4. The patient leaves the hospital the morning after surgery.

5. The patient returns to work in two to fourteen days.

Results are:

1. Decrease of recurrence rate from the standard ten to thirty per cent to one per cent.

2. Hospitalization shortened to one day after operation.

3. Disability shortened.

4. Great saving in hospital expense and financial loss from disability. ***

TOO MUCH SUGAR

Over-consumption of fat is the current popular villain in cases of coronary heart disease. One English scientist, however, claims that the true culprit may be excess sugar.

Englishmen today consume more sugar in two weeks than they did in a whole year 200 years ago. Yet they eat only one eighth more fat, according to Dr. John Yudkin of the Queen Elizabeth College of the University of London.

In studies conducted over five years, Dr. Yudkin could find no difference among heart patients who did or did not consume a great deal of fat. Yet, another group of patients hospitalized after a first heart attack ate "very much more sugar" than patients with no heart trouble.

Dr. Yudkin suggests that the key to coronary heart disease may lie with insulin, whose secretion is stimulated by sugar. Circulating insulin was found greatly increased in the diseased group of volunteers. Cigarettes, a factor in heart disease, also raised insulin levels.

—Listen

Eating and Diabetes

by LOUISE SHANAHAN

Viju Sarcar thought of herself as just another plump middle-aged housewife who good-naturedly accepts her husband's teasing. He told her she should go to the doctor and follow a diet so that she will look like the girl he married.

Accustomed to the extra weight ("It was only two pounds for every year of marriage," she later told the doctor), Viju ignored her husband's plea. She actually increased her intake of snacks, because she felt tired.

An invitation to a party brought Viju face to face with the fact that none of her party clothes would fit her. Wanting to lose weight, she went to the doctor, as her husband had suggested.

When the doctor took her medical history Viju reported her constant craving for food and her feeling of exhaustion. After a complete physical examination, including blood and urine tests, she waited for the doctor's diagnosis. To her astonishment he told her she had diabetes.

More than eighty per cent of diabetics are overweight. There are millions of overweight people in the world. Women are twice as likely to develop diabetes as men are. Middle-aged (after forty) married women are more susceptible than single women.

Who is likely to become a dia-

betic? It is believed that a diabetic differs from a nondiabetic almost from brith. Despite the fact that as a baby or even a middle-aged person he may not be known as a diabetic, certain hidden and frequently damaging body changes may occur in the first years of life.

Medical research is attempting to identify a prediabetic state. In a suspected diabetic an electron microscope may be used for examination of ear-lobe tissue, which reveals changes before diabetes is confirmed in a person.

The possibility of developing diabetes is dependent in part on family background. A person who comes from a home where both parents are diabetic has a 100 per cent chance of becoming diabetic. If only one parent is diabetic but a grandparent and an aunt or an uncle on the other side of the family have the disease, the possibility is reduced to eighty-five per cent. If in the second generation preceding the person only two were diabetic, the likelihood is diminished to sixty per cent. Diabetes may skip a generation, and so the possibilities are reduced still further. What is important is that people can be carriers of diabetes without knowing it.

Diabetes has been described as a metabolic disorder primarily of carbohydrate use and secondarily of protein and fat use in the body. According to Dr. Paul Beigelman, associate professor of medicine at the University of California (U.S.A.), this definition is undergoing revision and amplification in the light of research. Protein metabolism studies under way may change the classical definition of diabetes mellitus.

In diabetics the hormone insulin, which is produced by the pancreas, is insufficient. The body is unable to utilize the sugar and starches eaten. As a consequence, excess glucose is accumulated in the blood. It may pass through the kidneys and appear in the urine. Uncontrolled or undetected diabetes can be fatal.

A diabetes patient must use discretion and discipline. Once this is done, he will be able to live with the problem—and live happily.

What happens to the person who discovers that he is diabetic? How does his life change? What are some of the limitations he has to face? Does he become an invalid? Does he live in pain? Will his life necessarily be confining? Does his world collapse?

Most physicians, aware that a diagnosis of a long-lasting disease carries with it emotional problems, try to be positive and encouraging toward the patient.

Dr. George F. Schmitt in his book *Diabetes for Diabetics* says that a patient must not allow himself to feel sorry for himself. Acceptance of the disease by the diabetic is perhaps the major hurdle in dealing with his problems.

When Viju Sarcar returns home to her husband and two teen-age sons, she will accommodate herself gradually to a new way of thinking and feeling as well as a new diet pattern.

Weight Reduction

First in the control and treatment of diabetes is weight reduction. Viju learned that weight loss is not only a matter of improving appearance but also of survival. Frequently high blood pressure is a complication.

Viju said, "Eating good food was a way of life for me. I used to go on occasional sprees even after the doctor prescribed a diet, but I paid for my foolishness. Now that I am aware of the consequences I don't indulge myself."

She said, "Before I got diabetes, keeping busy had become a problem. My two sons were in school all day, and after I did my housework I used to sit down and eat pastry. Now that's a thing of the past. I do volunteer work two mornings a week, and I've found I don't need extra food."

The special diet and medicine for reducing high blood pressure were the first changes Viju learned to accept. Adjusting a special diet to social occasions and restaurant meals was another part of the problem.

Viju said, "Friends do not understand that a diabetic must use discretion and discipline. They try to tempt me with forbidden foods. 'Just this once won't hurt you,' they say. I've given up a few friends," she admitted.

In the insulin-dependent case of diabetes—about fifteen per cent of all cases—the person must rely on injections of insulin for the rest of his life.

The overweight diabetic does not depend on insulin for control but on oral medication. Overweight

people who have taken insulin are found to retain or increase their weight and blood sugar levels, causing complications.

In control of diabetes the use of medicine as prescribed by a physcian is important. A person should never increase or decrease the dosage without consulting his doctor.

Blood and Urine Tests

As Viju discovered, blood and urine tests are vital to the control of diabetes. They measure sugar level. A person who has good control of the disease is found to be free of urine sugar before meals. The blood-sugar level is less than 110 milligrammes about two hours after a meal. These two indications constitute a general guide for control of diabetes.

A time schedule for urine testing set by the doctor must be followed strictly so that variations in the sugar level of the urine can be recorded and evaluated. Testing sets may be used at home according to the doctor's recommendation.

Viju does not have any pain nor a restricted life. She said, "I carry a card identifying me as a diabetic. I've joined a group of diabetics, and getting together regularly with them to talk things over has really helped."

She admitted, "When I learned I had diabetes, all my attention was focused on myself. I almost forgot I had a husband and two sons. My husband was considerate, patient, and helpful in getting me to forget about myself. For me one of the compensations is that I have been forced to be more active. My husband and I take a walk every evening after dinner for an hour, and I've become acquainted with my neighbours."

There are times of depression and discouragement. Viju said, "When I'm feeling low I have a temptation

Safety Rules for Swimming

by IRWIN ROSS, Ph.D.

1. Learn to swim.

2. Stay out of deep water if you can't swim.

3. Never swim alone.

Always swim with a group, and keep an eye on those about you.

4. Never swim or dive in unfamiliar waters.

A sudden turn in the tide, a hidden rock beneath the surface—either can spell death for the novice.

5. Wait at least an hour after eating.

Stomach cramps result when over-exertion draws blood away from the stomach. If you feel a stomach cramp starting, float—don't swim—and massage your stomach.

6. If you are overheated, stay out of water; if chilled, get out.

A sudden plunge into cold water, especially after strenuous exercise, can also bring on deadly cramps. So when you have been playing on the beach and are overheated, sit down for a few minutes and cool off. Cramps can also be brought on by remaining in the water when tired and chilled.

7. Don't be a show-off.

A good rule for swimmers is the rule of halves: never swim a distance unless you have complete confidence you could easily go *twice* as far. In other words, operate on the theory that you are only half the swimmer you think you are.

8. Don't fight the water.

Instead, fight the tendency to panic in case anything goes wrong. Water itself is more tireless than the strongest swimmer.

When caught in a current, turn with it and angle for shore. When caught in an undertow, do nothing at first. Just wait. An undertow is nothing more than the force exerted by the waves receding from shore. The next oncoming wave will carry you if you let it help you along.

9. Don't jump in after a swimmer in distress unless you are a trained lifesaver.

to gorge, but the complications of diabetes have held me back from giving in to the desire to eat."

Blindness and heart disease are two of the serious complications resulting from uncontrolled diabetes. A diabetic is susceptible to diseases of the skin and nervous system. Itching, boils, carbuncles, abscesses, and skin infection are to be avoided, because the skin of a diabetic is slow to heal.

Poor circulation in the feet, and feelings of numbness or tingling in the hands and feet may cause the diabetic concern. He should never wear tight-fitting shoes or garters, which may reduce the blood supply to the legs and feet.

What is the prognosis for Viju and other diabetics like her?

When a disease is considered to have no known cure, people afflicted with it may either succumb to it or use all the available medical knowledge and live as normal a life as possible.

Because the possibility for the increase of diabetes over the next generation indicates that the disease may take precedence over other health problems, research is significant.

Some aspects being investigated are the role of enzymes and enzyme inhibitors, the structure and function of the insulin molecule, and protein production within the cell. The hormone glucagon is being studied for its effect on the blood-sugar level during times of stress.

Although a cure for diabetes is not apparent in the foreseable future, much research is in progress in hitherto uninvestigated areas.

Although diabetics are aware that there is no cure, the situation is by no means hopeless. Before 1921 a diabetic could not look forward to living a normal life. Because of the work of Dr. Frederick Banting and his medical assistant Charles Best, insulin was discovered. The history of diabetes was thereafter changed.

Dr. J. Wallace-Owens, co-discoverer of immunoassay of insulin and other protein hormones, have advanced the knowledge of diabetic research considerably and pointed the way for additional research projects.

The development of oral hypoglycæmic medicine was another milestone in the treatment and control of diabetes.

Although no one can predict the future of diabetic research, gradual accumulation of information on vital areas still under investigation offers the promise of eventual conquest of the disease.

One part of the diabetes picture is stable, and that is the relationship of the overweight person to his susceptibility to the disease. Overweight and diabetes are often a pair.

A large part of life is eating. Who thinks of it as an insidious process? Who stops to realize that it steals away good health? If we want to live we must do so.

Viju Sarcar learned that excess weight from overeating is an invitation to diabetes. How many others are there on the threshold who cannot resist the temptation to eat excessively? Determine now to make all your habits good health habits and while there is still time, avoid eating your way to diabetes.

GOOD HEALTH IN CHILDHOOD

From page 2

with flour made from the whole wheat. Children should be taught to eat whole wheat preparations such as *chapatis*.

This also applies to adults who have neglected their diet and wish to re-adjust their eating habits. The advantages of wholemeal bread are great. It gives the jaw more exercise and reduces both dental decay and pyorrhœa. Because wholemeal bread contains natural roughage, constipation is avoided and toxic waste is eliminated more efficiently. Many conditions (e.g. peptic ulcers) were unknown until the refining of flour reached such a high degree.

When we start children off in life we seldom consider what will happen in their mid-fifties, the time when heart disease is most likely to strike. The dietary factor cannot be ignored, the evidence is too great. During the war years between 1939-45, food was restricted and our intake of sugar and fats was greatly reduced. The number of deaths from cardiac and vascular diseases fell substantially as a result. Animal fats are now known to raise the cholesterol level in the blood, thus leading to the formation of clots in the coronary arteries. *Children will have a much better chance of survival if they are brought up on a diet containing vegetable, rather than animal fats.*

Children need a varied well-balanced diet when they are growing. For strong bones and healthy tissue they need protein-rich foods: milk, cheese, nuts, and eggs; they need fresh fruit, and raw or lightly cooked vegetables: it

is most important that they should have nutritious wholemeal bread, and home-made cakes made with wholemeal flour and unrefined sugar or honey. Not only will this help to make our children stronger and more vital; it will provide the basis for healthy long-life expectancy.

We owe it to our children to start them off with good eating habits. But it is never too late, even for a mature adult, to start eating wisely and thereby to recapture vital health. ***

GUIDANCE NOT FORCE

From page 13

Perhaps the greatest factor in helping a child direct his emotions is the example the parents set. The parent who has good emotional control when the child has done something that angers him is setting an example that will have a wholesome influence.

Participation

Participate with your child in pleasant and exciting experiences. Be enthusiastic with him, laugh with him, and cry with him. But guide him in controlling his emotions. Allow him to be sorry, but not sorry for himself. Do not make fun of him for being afraid, but tell him that being afraid is perfectly natural. Explain that there are some things of which a person should always be afraid, such as the danger of being run down by a car or playing with matches. Help him to rise above the fear of things that will not hurt him. Allow him to be angry with unfortunate conditions, but warn him against directing his anger toward any human being. A child who is reprimanded sharply for the same thing over and over or given severe spankings for the same act again and again is not learning the principle of obedience. Such discipline can only result in the estrangement of the child and his parent.

One of the most effective ways of guiding a child's interest and preference is by providing stories that teach the principles of wholesome living. This avenue of influence can be used with the toddler as you tell him stories about your experiences. As he grows older, read to him stories he selects that are interesting and influential. As he becomes old enough to read for himself, you should still participate in selecting what he reads. The same principle applies to television programmes and other forms of entertainment.

Probably the adolescent years require more tactful guidance than any other period in a child's life. If the foundations of personality and character have been properly laid during the earlier years, the teen-ager will have developed a gratifying ability to reason correctly and make wise decisions. Even so, he will need the steadying influence of sympathetic parents as he faces new opportunities for activity and self-expression. Each time you permit your developing teen-ager to have increased liberty you should point out that with liberty goes responsibility.

Continuing the privilege depends upon the teen-ager's relationship to the responsiblity the privilege carries.

Father and mother share about equally in the important task of influencing the lives of their children. In the following quotation Ellen G. White speaks primarily to mothers, but the principle beautifully expressed applies also to fathers:

"No other work can equal hers in importance. She has not, like the artist, to paint a form of beauty upon canvas, nor like the sculptor, to chisel it from marble. She has not, like the author, to embody a noble thought in words of power, nor, like the musician to express a beautiful sentiment in melody. It is hers, with the help of God, to develop in a human soul the likeness of the divine."—*The Ministry of Healing*, p. 378. ***

HOUSEHOLD hints

Thermos Flask Corks

However clean you try to keep the flask, after a little use the cork gives off a fusty smell and imparts a disagreeable taste to the contents of the flask. This can be prevented by wrapping a piece of silver paper around the cork before inserting it into the flask. In this way the liquid does not touch the cork in any way.

When Sewing Plastic

Plastic material often drags when it is stitched by machine. To prevent this, press the two edges of the plastic together with a light smear of petroleum jelly before machining. The needle will then pass smoothly over the plastic.

Addition for Soups

For a time-saving, as well as a colourful addition to soups, stews, etc., mince together two carrots, two sticks of celery, a bunch of parsley, a red capsicum, and one small onion. Mix in one teaspoonful of salt, and store in a tightly sealed container in the refrigerator.

Soon rains will be here.
Why not make the most of it?

Monsoon Gardening

by R. L. Rowe

THE arrival of the rain is generally received with a feeling of satisfaction. In the natural world the hills turn green, the newborn leaves on trees and shrubs transform the desolate countryside into a world of pleasant vistas. The air is charged with additional oxygen and invigorates man and animal alike. Plants grow much more rapidly, due partly to increased humidity and partly to dissolved nitrogen in the rainwater. Lightning converts a part of the atmospheric nitrogen into a form usable by plants.

The gardener can take advantage of the monsoon. The first rains cause new growth to break from dormant buds. Just before this roses and other plants may be pruned, trimming off weaker growth sections and giving the plants the desired shapes. Some plants which make a vigorous leafy growth in the monsoon, such as bougainvillæ, are pruned at the end of the monsoon, with the result of less leafy growth but more "flower" bracts.

In areas where the monsoon is moderate many plants grow well in this season. One reason is that insect attack on gardens is somewhat less in monsoon than in dry weather, not because insects are fewer but because the abundant non-garden foliage reduces the number of some pests in the garden. However, many insects which are habituated to certain plants, such as cock chafer beetles that eat holes in rose and grape leaves, aphids, caterpillars and others may increase alarmingly. Because the rains wash off most insecticides, it is well to use *Rogor, Metasystox, Dimecron,* or other systemic insecticides which are absorbed by the plant and not washed away. Certain plant diseases, such as arachnose or leaf spot of beans spread from plants when the leaves are wet.

Proper Drainage

In order to allow adequate drainage from heavy rains, planting should be done in raised beds. The edges of these beds may be kept from washing away by brick or concrete walls, teak planks, cement rings such as are used for joining large cement pipes, roof tiles, asbestos, cement sheets, or Shahabad stones. Raised beds which are six inches or more higher than the surrounding area will prevent the waterlogging which would drown strawberries, beans, tomatoes, melons, etc. Some gardeners install drain tile by digging ditches at six foot intervals. These are dug about two feet deep and the tile laid on a layer gravel or broken rock. They are not cemented together, but a piece of plastic or aluminium is laid over the joint. The pipe is then covered with gravel and the ditch filled in. These drain tile must lead to an area lower than the garden to be of any use.

Dissolving and washing away of soluble plant foods is to be expected in times of heavy rainfall. This can be partially prevented by incorporating a large amount of organic material in the soil in such forms as compost, decomposed horse or cow manure, etc. If sawdust, sugarcane waste, paddy husk, or strawy materials are used, extra nitrogen should be provided so that soil bacteria, which require nitrogen for their growth, can break down the material into forms usable by the plant. This nitrogen may be in

forms such as urea, nutcakes, or meals, or chemical nitrogen such as ammonium sulphate, ammonium nitrate, ammonium phosphate, potassium nitrate, etc. Other chemical plant foods may be more safely used in monsoon conditions than in dry weather, but one must follow recommended practice and not overdo. When it comes to fertilizer, it is not true that if a little is good, more would be better. Too much may make such a concentration in the soil that the plant cannot absorb moisture or food.

To prevent potted plants from being drowned and the plant food being washed away, many gardeners place them under a shelter during the rains. This is not always possible. A plastic or aluminium foil collar that fits around the plant stem may be used. This collar extends over the edges of the pot, making in effect a tent through which the plant protrudes. A few holes in this will allow some water to keep the soil moist, but the excess is diverted. The use of black plastic will discourage weed growth in the plant.

Rain Shelters

Seedflats or pots need shelter in heavy rains. Large drips from trees will batter young plants to death, and seed may be washed away, or plants drowned. Care should be taken to avoid overwatering. Seedlings should be thinned to avoid crowding. Too much moisture and overcrowding of plants invite damping off, a fungous disease which causes the plant to fall over and die. Once the disease has begun it may be checked by the use of *Blitane, Blitox,* or similar copper fungicides. The disease is much less common in raised seed beds in the open ground. Covering the top layer of the seed box with fine sand which dries out more rapidly than soil will also help. Asters, lettuce, pansies, petunias, cabbage, and many other plants are subject to this disease in seed flats.

In dry weather, moisture from deeper soil layers percolates upward by capillary action, carrying with it dissolved mineral salts which are left behind in upper soil layers when it evaporates. In alkaline soil areas this inhibits the growth of plants. In the rains, the water moves downward, carrying away excess salts (and also plant food) beyond root depth in many cases. If the rains are not excessive (so that too much of the soluble food is carried away) the result is increased availability of minerals and a lowered alkalinity.

This explains why some plants will grow in an area only during the monsoon, because they cannot tolerate the high alkaline conditions of dry weather and because some minerals are "locked" in the soil by high alkaline conditions. The monsoon may lower the Ph of soil considerably. Ph is a term used with a number to designate the amount of hydrogen (acid forming) in a solution. The higher the number the less hydrogen; neutral soil is from about Ph 6 to 7. Generally, acidic soils form in high rainfall areas, while alkaline soils are found in dryer areas. The salts that cause alkalinity are washed away by heavy rainfall.

It is wise not to work in soil that is too wet. However, if plants must be set out and a break in rains is not likely, spread the weight of walking in the garden by using flat boards or slate or Shahabad stones. This will lessen the amount of packing of the soil. Walking on wet soil may drive out the air and compress it into a dense mass. A rule to determine whether soils is too wet to work is to form it into a ball in the hand. If the ball crumbles when pressed it may be worked safely. If not, it is too wet and walking or working in the area should be kept to a minimum.

Let us enjoy the new vigour and growth of the monsoon, and surround our homes with greenery and flowers. ***

The Doctor Advises

Beer

"A friend of mine claims that her doctor believes there is no harm in beer. She is now drinking ten cans of beer a day. She is sure a person cannot become an alcoholic on beer alone. This lady is very anxious to have a child of her own, but so far she has been disappointed. Is there any harm in beer?"

Any drink that contains alcohol is potentially harmful. Ten cans of beer a day provide a considerable quantity of alcohol, enough to make many people drunk. If your friend is not already an alcoholic, she soon will be, if she keeps up this pace. Whether the beer interferes with her becoming pregnant or not, I cannot say. Her trouble may be due to other causes. However, alcohol in any form is not good for the body. If she wants to become pregnant, she would be wise to give up every indulgence that breaks down the resistance of the body and increases the work of the heart. It is so easy to become a slave to alcohol. Regardless of all the advertising to the contrary, alcohol has destroyed more human beings than any other single substance since time began. The wise person will avoid absorbing this poison into his blood stream.

Hyperthyroidism

I am told that I have hyperthyroidism. Would you please tell me what this is and what I should do about it?

Hyperthyroidism is overactivity of the thyroid gland. The gland is producing too much hormone. This hormone is probably of an abnormal type. The thyroid gland is located in the front of the neck down close to the chest. In the normal person it can scarcely be felt during physical examination. When a person has hyperthyroidism the gland is usually very much enlarged. The eyes may be rather prominent and appear large. There is a rapid pulse and the skin may feel hot and moist. The patient may be suffering from extreme nervousness. The heart beat may also be very irregular. There may be pains in the chest because the heart is under so much pressure that it can no longer meet the increased requirements of the body.

This shows how far-reaching the effects of these thyroid hormones really are. Every part of the body is vitally affected whenever something happens to the thyroid gland. Treatment depends first of all upon an adequate diagnosis of the condition. Sometimes it takes considerable skill on the part of a well-trained doctor to be certain as to what is actually taking place. A diseased thyroid can be treated either medically or surgically, according to what may appear to be best for the patient. Some doctors prefer surgery. This is still considered very good therapy. However, it is now possible to treat the over-active gland with radio-active iodine. The decision as to the course of treatment must rest with your doctor.

BEAT YOUR DAILY TENSION

From page 11

right, but do it calmly and remember you could be wrong.

6. If you worry about yourself all the time, try doing something for somebody else. This takes the steam out of your own worries and gives you a feeling of having done well.

7. Remember to take one thing at a time because tension sometimes makes the normal work load seem unbearable. Pitch into the most urgent tasks at first and forget the rest.

8. While you are working, shun the "superman urge" that makes you expect too much from yourself. Give it all you have, but do not expect the impossible.

9. Do not expect too much of other people either, whether they happen to be a wife, a husband,

or a child. Search out a person's good points and go easy on criticism.

10. Give the other fellow a break and this will very often make things easier for you. When he stops looking on you as a threat, he stops being a threat to you.

11. If you have that left-out feeling, make yourself available but do not be too forward. This may lead to real rejection. This is essential for physical and mental health.

Tranquillizers

Life insurance companies understand very well the connection between everyday tensions and physical health. An educational booklet, published by the Connecticut Mutual Life Insurance Company, *The Worry-Go-Round* calls continued anxiety and tension *"slow poisons."*

In recent years the use of tranquillizing drugs has increased enormously in order to bring people relief from nervous tensions and the feeling of anxiety.

But it should be remembered that man cannot solve his problem of daily living with a pill.

An excellent medicine for treatment of daily tensions is the creation of extra time. A certain amount of spare time gives the possibility of straightening out irregularities and avoiding tensions.

It is characteristic for the great man, for the good organizer, that he is clear and precise and to the point in his time schedule. Due to this method he always has some extra time left for important matters that suddenly come up unexpectedly.

One point surely is valid for everyone: any activity which deprives a person of sleep, does not create extra time. The man who is not rested is nervous and irritable. He is not likely to accomplish much. Lack of sleep decreases the usefulness of the available time. ***

SECRET OF STAYING YOUNG

From page 15

we will learn to live with a happy heart in spite of our handicaps.

More than six hundred years ago someone wrote this interesting little poem that illustrates so well the importance of having the right attitude in life.

"Give me a good digestion, Lord,
And also something to digest!
Give me a healthy body, Lord,
With sense to keep it at its best.

"Give me a healthy mind, good Lord,
To keep the good and pure in sight;
Which seeing sin is not appaled,
But finds some way to set it right.

"Give me a mind that is not bored,
That does not whimper, whine, or sigh.
Don't let me worry over much
About this fussy thing called I.

"Give me a sense of humour, Lord,
Give me the grace to see a joke;
To get some happiness from life,
And to pass it on to other folk."

There's real joy and happiness in such an attitude toward life as that. If each of us, young and old, could keep that philosophy in our hearts, we would stay young in mind, and probably stay young in body to a large extent. And we would have much enjoyment, much happiness, and many real friends through all the days of our years.

Happy is the person who can always feel that his time is being spent on something worthwhile, whether it be some new activity, or at his old occupation. You see, the older years of life are largely what we make of them. They can be either a period of happy satisfaction and enjoyment, or they can be a period of time when we are utterly bored and miserable with what we are doing. These closing days need not be that way. They can be filled to the brim with joyous memories and useful activities.

And it is for every member of the family to help the older person to feel wanted and loved, and to feel that he does have some useful place in life. Many a person would be far easier to nurse, far easier to take care of, if he felt that he was really wanted and loved. The answer to many of the problems that many families face today is to have their older folk feel that life is really worthwhile, in spite of the passing years. The ageing process, of course, takes place in every one of us. There is no reason why we should become discouraged with this fact. But if we do show the respect that we should to those who are older in years, it will again return to us with much enjoyment as time goes on in our own case.

This ageing process cannot always be postponed. But by learning to live young, by learning to think young, by learning to stay young in mind and body, we can all postpone those inevitable changes until the day when we are ready to lay down our burden and rest. ***

New Drug to Fight Influenza

A two-in-one influenza drug that strengthens the battered body cells, while knocking out the virus has passed tests on animals and is being tried on human volunteers.

Chicago Medical school scientists said that they had high hopes that, for the first time, medical science would have a weapon to deal with widespread viral infections.

The double-action compound works at so fundamental a level that it will likely be useful against a wide range of viruses, according to the scientists.

Paul Gordon, Eric Brown and Bruce Rosen presented their findings before the Federation of American Societies for Experimental Biology.

Food and drug regulations do not permit the scientists to speak about clinical results of the new drug but medical publications in Argentina, where it already is on the market, are hailing its effectiveness in both adults and children.

The drug, called Isoprinosine, works best when given a day after symptoms have appeared.

Tests on mice conducted at the Chicago Medical School show a virus reduction of 10,000 fold, said Mr. Brown.

In addition to knocking out the 'flu symptoms, the drug induces body cells to produce more self-strengthening protein.

—*The Eastern Pharmacist*

Blood Substitute

Dr. Robert P. Geyer, a Harvard biochemist, reports that he has developed a milky synthetic substitute for blood.

His experiments with more than 200 white rats and one dog show that fluorocarbons—the type of material used in teflon-coated cooking utensils—was highly effective in carrying dissolved oxygen from the lungs to body tissues and in eliminating carbon dioxide as waste.

This function is normally carried out in the body by the hæmoglobin in red blood cells.

Fluorocarbons, normally obtained as industrial by-products, are semi-organic compounds similar in structure to hydrocarbons except that flourine replaces hydrogen. They are highly inert, nontoxic, and resistant to heat, acids, alkalies, and weatherings.

—*Listen*

Immunity Structure

Scientists at the Rockefeller University in New York have found a clue to the mystery of how people stay alive and healthy despite attacks by billions of germs.

By spelling out for the first time the complete chemical structure of an antibody, their achievements may help in building better defences against disease. And it may also assist in combating nature's law of rejecting a borrowed heart, kidney, or other organ.

Antibodies are protein molecules that destroy an individual—whether it be bacteria, a virus, or even a transplanted heart.

Any such foreign substance is known as an antigen. The antibody formed against it is thus a key chemical in immunity.

Dr. Gerald Edelman and his associates who chemically analyzed this pure antibody say, "We believe that we are now closer to a satisfactory explanation of the chemical and genetic basis for the immunity process."

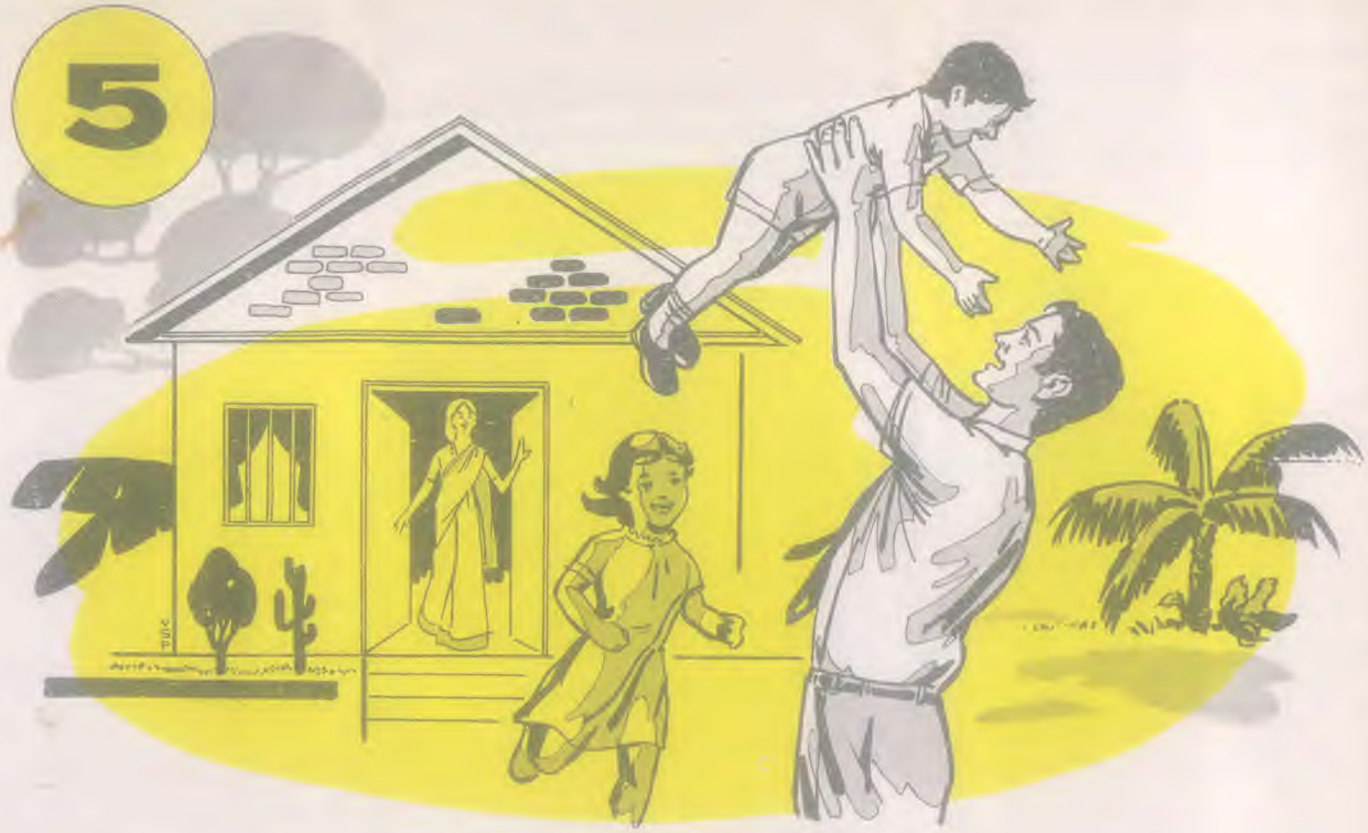
—*Listen*

Japan Makes Sunshine

Living in dark dreary rooms? Help is on the way from the land of the rising sun, says *Industrial Research*. The Goto Optical Research Institute of Fuchu can provide sun for any room via a system of mirrors. One mirror is mounted on the roof to catch the sunlight. A second mirror is positioned above it to beam reflected sunlight to the third mirror, which is placed in front of the window of the room to be brightened.

One disadvantage: the roof-mounted mirror has to be moved every twenty minutes or so to catch the sun. But Goto plans to provide a photoelectric device and motor in future models that will follow the sun automatically.

—*Science Digest*



happiness and contentment

Courage, hope, faith, sympathy, love, promote health and prolong life. A contented mind, a cheerful spirit, is health to the body and strength to the soul. "A merry heart doeth good like a medicine" (Proverbs 17:22).

In the treatment of the sick the effect of mental influence should not be overlooked. Rightly used, this influence affords one of the most effective agencies for combating disease.

Nothing tends more to promote health of body and of soul than does a spirit of gratitude and praise. It is a duty to resist melancholy, discontented thoughts and feelings.

Those who constantly complain, who seem to think cheerfulness and happiness unnecessary, cannot enjoy the better life. Those who take a mournful pleasure in all that is melancholy in the natural world, who choose to look upon dead leaves rather than to gather the beautiful living flowers, who see no beauty in grand mountain heights and in valleys clothed with living green, who close their senses to the joyful voice which speaks to them in nature, and which is sweet and musical to the listening ear—these are not in tune with life.

It is a law of nature that our thoughts and feelings are encouraged and strengthened as we give them utterance. Words express thoughts, but it is just as true that thoughts follow words. Hearts and lips alike can be educated to express the positive, the forward-looking, the happy.

Registered No. MH—40.