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It's easy enough to be pleasant
When life flows along like a song,
But the man worth while
Is the man who can smile,
When everything goes dead wrong.

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Madras-Thyagarayanagar.—Editor, W. & W.

EDITORIAL

The One Vital Law

The one fundamental law is the law of cause and effect. All other laws are extensions of this one Law which is a vital one.

The law-giver is God.

The laws of nature and the laws of God are one.

The law of cause and effect is unrelenting.

If you violate the laws of health and hygiene, you are punished by this law, through diseases.

Nature is the power of God and God is Nature's Lord.

This world is created by God with the aid of Nature.

The law of nature or the law of cause and effect operates in the upkeep of health of man.

The natural power of healing must be understood and the nature must be helped to heal the system.

The injudicious administering of drugs acts against nature.

The law of Karma operates. Evil actions bring diseases. "As you sow so you reap". Let us remember this immutable divine law.

To enjoy good health one must have done good and virtuous actions.

Our ancient scriptures have declared in unequivocal terms that every action has its own reaction. This is known as the theory of Karma, which is very exact.

Our puranas reveal that one can find a detailed description therein of the extent of tracing out the particular cause of a particular disease.

It has gone to the extent of tracing out the particular nature of the birth of an individual in a particular womb.

There is a typical example of the nature of particular diseases and their particular causes.

The murderer of a Brahmin becomes a consumptive. The persons who kill a cow become hump-backed and imbecile.

The killer of a virgin becomes a leper. All these are born as 'Out-castes'.

"The slayer of a woman and the destroyer of embryos becomes a savage full of diseases. One who commits illicit intercourse, becomes a eunuch. One who pollutes the teacher's bed gets leucoderma."

"The eater of flesh gets red complexion. The person who is addicted to intoxicants becomes one of discoloured teeth. One who gives impure food at a Sradha ceremony (sacrifice in memory of the deceased) is born a spotted leper."

"The man who through pride insults his teacher, becomes an epileptic. He who despises the Vedas and the Scripture certainly becomes jaundiced."

"He who bears false witness becomes dumb. One who violates the rule of eating becomes one eyed. One who interferes and upsets a marriage has a split lip. One who steals sacred scripture is born blind."

"One who utters falsehood becomes a stammerer. A poisoner becomes insane. An incendiary becomes bald. He who steals gold gets diseased nails and is born in low caste".

All these remarks written in millenia ago signify and emphasise the need for our ethical observances.

Whatever might be the cause of a particular disease it would be obviously in our best interest to avoid committing the mistakes mentioned above. One should avoid injury to other beings and as far as possible try to actively help and serve others in their sufferings. Such kind of acts of charity would benefit us greatly in enjoying good and natural health, peace of mind, joy, tranquility, and happiness.

The conduct of daily life is of importance to maintaining health. The care of the health should begin with the earlier life.

The care of the child with reference to feeding is of the greatest importance.

Disease is lack of ease. If all the organs perform their functions well and naturally, when there is a feeling of ease or comfort, it is said that one is healthy. When sense of comfort vanishes, it is said that one has got disease.

The source of disease may be said to be the mind.

If the blood is perfectly pure there can be no toxin in the body and there can be no disease.

The toxic condition of the body is due to the impurities or abnormalities in the blood.

Purity of blood can be ensured by proper exercise, proper use of air, and water and proper mental condition.

The skin must be maintained in a healthy state by bathing and exposure to sun.

Proper exercise and rest are very important.

To maintain good health one other item of immense importance is to maintain proper posture of the body while at work.

Attempts to depress diseases are disastrous.

To maintain good health up to one's ripe old age, is to learn the combative values of nature cure method and to adopt preventive methods.

Let nature cure be a code for the upkeep of health and prevention of diseases.

Fear is the first disease that attacks the mind. From the mind the diseases are transferred to the body.

The mind is the cause of all diseases. If by some method, physical, mental, the cause of the disease could be got rid of, we can effectly cure all diseases.

Fear should not be allowed to conquer him. This is possible only by keeping a high standard of mental strength by taking recourse to spiritual practices. When it is not possible to achieve mental perfection to cure a particular disease, then we have to adopt physical means of remedy as well.

It is by willing and wishing, by the good or evil deeds, which are the work of mind, and by such mere mental acts the prana enters the body through the

karma—virtue and vice—produced by volition or sankalpa, wish—icha etc., of the mind.

A person's life in the body is the sure and appropriate result of his thoughts in a previous existence which we should bear in mind now and perform our actions.

In Gita we find "When man acquires a body and when he abandons it, he seizes the organs and goes with them just as the wind takes fragrance from their retreats."

At the time of death the activity of the senses decline. All functions such as thinking, remembering, etc., cease. Only respiration goes on. The Jiva separates himself at the time of death from the physical body and comes to the subtle body or Linga sareera with the thought he had at the dying moment, and the Linga sareera is led according to the thought influencing good and evil actions.

By knowing the laws of birth and death due to Karma, one should know that he comes into the body by the activity of the mind—thoughts and desires.

One has to acquire the knowledge now while we are living in this world which will help him to cross, by means of the boat of the knowledge of Brahman, the Ocean of ignorance filled with perverse knowledge and infested by such evils as birth, old age, death, sickness, sorrow, pain, misery etc., and reach the other shore of fearlessness and immortality.

NOTES

U. S. A. ATOMIC AGGRESSION EARLY FULL DRESS REHEARSAL EXPECTED

BY R. S. SANKARIAR, *Retired District Judge.*

The B. B. C. Broadcast on the morning of Monday 28th February at 7-45 "London Forum" discussed the British proposal to develop the H Bomb and the wisdom or otherwise of such nuclear weapons in war. The discussion seemed to suggest that any such war in the west though limited at first, will become a world war, causing world wide disaster. At the same time they envisaged a limited war using such weapon in South East Asia in Siam, Cochin China or off shore islands of China, without probability of the war developing into a World war. This seems to be veiled warning to China to expect such a war in the near future—How it is developing!—

I. Preliminary

1. Baby Atom has been dropped from a plane on land in the recent test.
2. Atom bomb head has been provided for shells fired by cannon.
3. Margin of contamination radius is ascertained.
4. Bombers capable of bearing atom bombs are sent to FORMOSA.
5. The Seventh Fleet in Formosa waters is to be provided with defensive atom bombs for cannon.
6. Dulles and IKE have declared that Nuclear weapons are from now, *conventional weapons* of the U.S.A. in ASIA.
7. CHIANG has affirmed his determination to "liberate" main land of China from the Communists.
8. He is assured of U.S.A. "all out" help in successfully combating and suppressing Communism in Asia.

9. The attack against the main land and other islands is maintained even after evacuation.
10. The U.S.A. units are to be rotated between Phillippines Tokyo, and Formosa in order to keep them "all alive" to war conditions in in Formosa to be ready for "push button" war.

II. Ruse

1. Though Chiang was unwilling to evacuate TACHEEN etc., the U.S.A. stratagists have made him do so as a tactic.
2. China is gradually occupying the evacuated islands as expected. The evacuation was a bait.
3. All the same their junks etc., are attacked from the Air and Sea.
4. This attack tests the defences and also warns that the evacuation was not a surrender of these islands to the C.P.R.

III. Catastrophe

1. When the Atom-maniacs have stored up enough of (1) small bombs to be dropped at random to annihilate life on the ground (2) sufficient atom-bomb-headed shells for their naval guns, these islands are to be attacked and the occupants destroyed from the air and the sea.
2. This will be a demonstration of the POWER of the U.S.A. as a warning to weaker nations; and the U.S.A. ability to "negotiate from strength".
3. This genocide will not be—in the view of Dulles Ike & Co., aggression against China but only a restoration to Koumintang of the islands trespassed upon by stray bandits so as to avoid China Soviet retaliation.

With Hypocrisy and such casuistry the World Domination-mad—monopoly capitalist controlled, U.S.A. Government are seeking to camouflage their blood thirsty schemes of Nuclear weapon Black mail of the whole world.

IV. Rescue

The C.P.R. may like the U.S.S.R. possess and be able to use Nuclear weapons and demonstrate the fact before U.S.A. starts their "DEFENSIVE WAR". If that happens and may God grant it, then Dulles and Co., will have to draw in their claws. The earlier the better for the WORLD.

V. Instigation.

Churchill stated in the House of Common that U.S.A. has enough stock of H. Bombs and the means of dropping them anywhere, within thirty minutes. He warned that in five years the U.S.S.R. will attain equality and then war will be unthinkable. This means that he asks U.S.A. to try out H. Bomb war now. He had similarly demanded in 1946, for attack on U.S.S.R. at once when U.S.A. had the monopoly of the Atom Bomb. Eden's declaration that the offshore Islands must be given up to the C.P.R. is apparently a subtle subterfuge to provoke war between U.S.A. and C.P.R. In 1939 Hitler was goaded by U.S.A. to fight SINO-SOVIET combine. When they are exhausted U.K. can assume to dictate and dominate. This is the British way.

Sivaratri Message

THE KEY TO PEACE AND PROSPERITY

(SRI SWAMI SIVANANDA)

Salutations to the Supreme Lord Siva, the Bestower of all Auspiciousness; May His blessings be upon you all on this great and glorious Day of Sivaratri!

Salutations to the great sages and seers who instituted the observance of these sacred days and even to-day inspire us all to learn lessons from such observance—lessons on the Goal and man's duty, on Dharma and its nature!

The modern man and woman, ruled by fashion and passion, would do well to meditate upon the Form of Lord Siva every morning. Siva, the Lord of Auspiciousness, has an almost naked body, besmeared with ashes! The Lord who can in the twinkling of an eye bestow all prosperity and wealth upon you, is regarded as a Beggar! Does not all this proclaim the truth: Do not be carried away by external appearances. Divinity is clothed in simplicity. Vairagya or dispassion is the abode of all auspiciousness. It is only one who has turned away from the glamour of the world that can by a mere thought bestow all auspiciousness on you. A Beggar who has no possessions except the priceless treasure of divinity is fit to be worshipped: he can grant you all that you want.

The world can learn countless lessons from the very Form of Siva. You believe prosperity and auspiciousness are the offsprings of ambition. No. They spring in truth, from desirelessness, from selflessness. Where there is selfishness, there can only be quarrels, wars and disharmony. Give up selfishness, says Lord Siva. Become desireless. Be dispassionate. You will not only enjoy peace and bliss, but you will radiate auspiciousness and prosperity.

Lord Siva is easily propitiated. Countless are the Puranic stories that bring out this truth: God is ever waiting to embrace you, to shower His blessings upon you, to take you back to Himself. No wonder: for He is your father, mother and all your own Self. It is He who gives you life. It is He who sustains you and comes to you in the form of food, clothing, comforts and conveniences—and gives you opportunities galore to seek Him and realise Him. When you neglect these opportunities, it is He in His Supreme Mercy and Compassion, who awakens you by sending you His Messengers in the form of adversities, pain and suffering. Turn to Him now. Tarry not. You will find Him very soon. Very soon there will be an end to all your miseries.

Who can describe the glory of His Campassion? By His own example, He shows you the Way to attain Him. Lord Siva is ever immersed in the repetition of Ram-Nam. That is the Way, and the easiest Way to attain not only the spiritual goal, but peace of mind, physical health and material prosperity. Practise and realise for yourself.

Start to-day. Sivaratri is the most auspicious occasion. Let it be a day of your rebirth into Divine Life. Forget the past. You have a glorious future. Resolve to-day to lead a life of truth, compassion and purity, a life of renunciation, selflessness and service, a life of simplicity, magnanimity and nobility. Without doubt you will grow into a better man day by day; auspiciousness and prosperity, peace and joy will seek you. The Lord's Grace will descend on you. You will grow into a great saint or Yogi, the beloved Bhakta of the great Yogiraja Lord Siva. You will shine as a beacon-light to guide mankind away from the rocks of wars and riots, to the destination of Peace and Prosperity.

May God bless you all with health, long life, peace, prosperity and Eternal Bliss! May you all tread the path of Divine Life and realise God in this very birth, nay this very second! May there be peace on earth! Om Namah Sivaya!

YOGA FOR HEALTH

(Sri Swami Sivananda)

Allopathic doctors hold that faulty diet, which leads to faulty nutrition, is the primary cause of a large group of diseases. They add that secondary weakness due to old age, debilitating habits like alcoholism, etc., chillies, poverty of blood, contribute to the development of diseases.

They also say that previous attacks of diseases, the existence of chronic disease of the heart or kidney or acute infectious diseases play a prominent part as causes of other diseases, such as pneumonia, etc.

Hindu Rishis and seers say that the primary cause of disease is evil Vasanas or desires. Sin and passion are the real causes of diseases. You will have to trace the origin of a disease in the mind first. This is most rational and scientific.

If you become angry, blood boils; various poisons are generated in the blood. These poisons cause various sorts of diseases. Hatred produces diverse ailments. Greed and jealousy poison the whole system.

Shock: You hear the sad news of the death of your father or wife, or the failure of the bank in which you have invested your whole income. You hear the news that your house is on fire. Your face becomes pale. The blood corpuscles are destroyed in large numbers at once. The blood becomes thin. You become depressed and weak. You cannot walk. You may sometimes die of heart failure.

On another occasion, you hear the joyful news when you were seriously ailing in your bed that you have got the first prize of one lakh of rupees in a lottery or that you are blessed with a son; your face becomes bright at once. You get up, jump and dance. You get strength.

What do those indicate or teach? They give the clear, conclusive proofs that diseases take their origin in the mind. If the mind is joyful there are strength, health, peace, etc.; if the mind is depressed, there are ill-health, weakness and disharmony. Bacteria or germs have their upper hand or sway only when the mind is depressed and weak. They cannot do anything even when they are present in the system, if the mind is joyful and healthy.

Regulated Life: The primary condition for the health of the offsprings is the proper feeling of the parents to provide healthy children. They should also lead a well-disciplined and regulated Divine Life. They should practise self-restraint, Japa, Kirtan, meditation and study of the sacred scriptures daily. This is very, very important.

The Immortal Soul (Atma) is Anamaya (free from all diseases). He who practises Brahmacharya and meditates on this diseaseless, decayless, deathless Atma daily in right earnest, enjoys longevity, good health and a high standard of vigour and vitality, and attains immortality.

Asana, Pranayam, Japa, Kirtan, meditation are the most potent tonics. Even chronic, incurable diseases can be cured by these Yoga methods. They fill the mind and the body with Sattwa, regenerate, renovate, energise the cells and tissues. They act as divine elixir or Sanjeevini herb.

All the lower emotions such as hatred, anger, lust, should be controlled by the practice of love, forgiveness, selfless service, purity and self-restraint. The mind should be kept ever serene, calm and tranquil by daily prayer, Japa, Kirtan and meditation.

There is no use taking medicines when you are a prey or victim of the surging lower emotions. The medicines will not produce any lasting effect. Treat the cause first. Treat the mind first. Good health will come by itself. He who ever keeps the mind calm, never suffers from any disease at all.

My you all possess good health through serenity of mind caused by Japa, meditation and practice of Yoga, and thus attain the Goal of life, viz., Immortality and eternal bliss.

UNFOLD THY DIVINE NATURE

(SRI SWAMI SIVANANDA)

Peaceful auspicious and beautiful, radiant, ever-pure and immortal is the nature of the inner Consciousness, the Atman, that pervades all creation. It is on account of the wrong superimposition of multiple unreal traits upon himself that man

becomes ensnared, miserable and imperfect. A little reflection, introspection and inquiry will reveal that in the heart of every human being there is an impulse for self-awareness, an urge to know to be happy and to be deathless. This reveals that man's real nature is Sat-chitananda, or existence, knowledge and bliss absolute. This is your birthright. If you deny yourself this, then you abrogate the very purpose of life.

The occasion of the New Year should remind you that yet another year has gone by without having realized the goal of life and that you are still shackled by the pairs of the opposites, by attachment, desire, imperfection and sorrow. The New Year should, therefore, be an occasion to pledge yourself anew to develop and consummate the inner, fundamental, spiritual urge to progress towards the infinite source and origin of life—God, the only Reality.

All aspects of the human consciousness such as that of the libido, race, parentage, intelligence and power are not representative of what one really is. These aspects depend upon the factors that are not permanent. They change when things change. They also change when the individual alters his thoughts, mode of living, or his philosophy and view of life. One can easily see how the other layers of inhibitions, habits and aptitudes are shed and acquired from time to time in accordance with the changing circumstances and self-effort. But the Soul-Consciousness, however dormant it may be cannot be shaken off by anyone, since it springs from the depth of one's real nature within.

To manifest this inner Consciousness is the essence of spiritual life. This is the goal of every human being. The purpose of life is to eliminate all that is negative and evil in man's personality and to develop in himself all that is sublime, good, auspicious and noble. That is done through the means of self-discipline and righteous living.

Moral rectitude and ethical perfection form the universal basis of all spiritual endeavours. Be good, do good, be kind, be pure, be compassionate, be tolerant, serve, love, give, purify, introspect, reflect, meditate and realize God, constitute the essence of all religious teachings.

Cultivation of positive traits such as purity, truthfulness, nobility, unselfish love, forbearance, humility, absence of anger and greed and lust, spirit of brotherhood, self-sacrifice, integrity, composure of the mind, and restraint of the senses, form the various disciplines in spiritual life. Renunciation of attachment, pride, egoism and all worldly desires are the basic requisites for Self-realization.

Blessed Self, on the occasion of the New Year resolve anew to lead the spiritual life with utmost sincerity and perseverance. You should ever endeavour to correct your defects and mistakes, not under the burden of shame or a guilty-complex, but with an earnest desire to evolve yourself ethically, morally and spiritually, so that you need no longer be tormented by mental conflicts, sorrow and suffering, but set upon a new vista of joyous experiences and spiritual fulfilment.

May there be peace, prosperity, and well-being all around. May all be happy. May the blessings of God be upon all.

THE ROLE OF INDIA AMONG NATIONS

(SRI SWAMI SIVANANDA)

India has a very great mission to fulfil. She has to play the part of a universal peace-maker (which she has already begun in the field of international politics), and a spiritual awakener and inspirer. Today the greater part of the modern world is heading towards total materialism. The fruits of total materialism are conflict, destruction, sorrow and suffering. This inevitable, bitter lesson is bound to lead to the equally inevitable reaction among mankind, when there will arise a cry for abiding peace, for light, and for a correct lead and guidance towards higher idealism of practical usefulness, realizable through the path of Dharma, which alone can lead all to everlasting happiness here and hereafter. It is for India to show

to the world the ideal of right living, universal well-being and spiritual unity through her own example. It is only through this means that she can be of any service to the world at large.

The spiritual wealth of India is as old as the most ancient civilization of the world. India is not a great country in material wealth or industrial advancement. But her spiritual wealth is perennial. It is most unfortunate that the majority of her people themselves are not aware of their inexhaustible divine treasure. It is therefore essential, first of all, that India should educate her masses to free themselves from age-old superstitions, religious bigotry and casteism, and enable them to see their real heritage in its pristine purity. Her masses should first of all learn to shake off the spell of fatalism and pessimism, and rouse themselves to dynamic and judicious activity in the direction of tapping the vast natural resources of the country, so that her teeming millions may have enough to eat and may find adequate scope of full employment to counteract the evil effects of poverty and indolence; for, a nation without a certain amount of material well-being is hardly capable of moral leadership.

India must preserve and safeguard her great Vedic heritage and re-employ her spiritual wealth in accordance with the change of time, so as to suit the teachings of yore to the life in this scientific era. It is true that the fundamentals of morality that were applicable to life two thousand years ago are as much essential even to this day, but it would be most inappropriate to try to force the ancient means and the custom of their application in the present-day world because the pattern of life and the surrounding conditions that influenced it in 500 B.C., as for example, were by far different from what they are today. Hence, a good deal of adjustment in the reinterpretation and reapplication of old Vedic values to modern life is inevitable. This must be tried first at home, and then presented to the world at large through the spectrum of the respective cultural backgrounds of different nations. Only then will the people accept the spiritual teachings of India.

While re-employing the ancient spiritual values in the light of the modern, progressive idealism, which is basically utilitarian in practical life, India must endeavour to keep her own heritage unharmed and unsullied by the impact of the forces of soulless materialism and dialectical totalitarianism that are so misleading and ensnaring to the modern worldly-minded intelligentsia as well as poverty-stricken masses. Every nation must grow after the pattern of its own growth, of its own cultural tradition or spiritual background. India must grow after the pattern of her own culture and so also should the other nations of the world.

In this context, it should not be forgotten that in the latter half of the last century, through the spread of British rule over India, western ideas, ideologies, customs and manners had almost induced the then intelligentsia of the country to sell away their own national virtues for the mere external glamour of western culture, with little capacity to digest what was really worth in it. But India was saved through a few reformers and saints who thwarted the tide of materialism and simultaneously fought the various ills of the then Indian society. The important point is that one should accept the best in others, leaving the rest, and enrich the growth of one's own culture without losing its moorings.

• May Mother India regain her glorious spiritual heritage! May all the peoples of the world live in amity and strive for mutual well-being and everlasting peace!

HEALTH

THE HEART

The heart is a hollow muscular organ, often described as the great central pump of the body. It consists of a special type of muscle called the cardiac muscle which is not under the control of the will—

Involuntary. It consists of four chambers—two auricles and two ventricles, one pair on each side. In between the auricles and the ventricles there are partitions called valves which are composed of parts known as 'cusps'. There are usually three cusps except between the left auricle and the left ventricle. Valves are also present between the left ventricle and the Aorta (the largest artery) and the right ventricle and the pulmonary artery.

The heart consists of an inner portion called the Endocardium which is also reflected to form the valves, a middle portion or Myocardium which is the heart muscle and the pericardium which is the fibrous encasing of the heart. In between the pericardium and the heart there is a little space filled with a small quantity of fluid to prevent friction during the various movements of the heart.

In the heart there is an area called the Sino-auricular node which originates the impulse for the contraction of the heart. This impulse travels downwards arousing each chamber to contraction as it passes by. A Special form of tissue conducts the impulse from the auricles to the ventricles.

The heart receives nourishment in the blood supply from vessels called the Coronary arteries which arise from the Aorta.

Blood Vessels

These consist of the arteries which take blood away from the heart, the capillaries into which the arteries divide and the veins which take blood back to the heart.

Physiology

The heart muscle possesses what is called 'Rhythmicity'. It beats about 70 times in a minute on an average, though anything between 60 and 90 per minute should be considered normal. In new born babies the heart beats about 140 times per minute, and this decreases as age increases to the adult rate. This function of the heart is not under the control of the will and hence cannot be modified at will as the functions of certain other tissues can. In this connection it is rather surprising to note that certain Yogis can stop the heart at will and what is more—restart it at will. The heart is under the control of the involuntary nervous system, and drugs acting on this system can alter the rate and rhythm of the heart.

Mechanism of the Heart Beat

The heart beat occupies 0.8 seconds. It is divided into Systole and Diastole. Systole is the part when the heart contracts. It takes 0.35 seconds while Diastole is the part when the heart relaxes and receives blood for the next systole and occupies about 0.45 seconds. The heart is such a wonderful organ that when subjected to stress as in severe exercise, it can work to ten times its normal capacity. Even a Cadillac may not be able to perform to ten times its efficiency.

Mechanism of Circulation

Impure blood from the upper and lower parts of the body collects in the right Auricle and is passed on to the right ventricle. From here it is despatched via the

pulmonary artery to the lungs for purification of the blood by means of gaseous exchange between the blood and the air which is breathed in. Oxygen is taken up by the blood and carbon dioxide given up during this process. The purified blood is collected by vessels which join together to form the pulmonary veins. These empty into the left auricle. From here the blood goes to the left ventricle which expels it into the Aorta to be distributed by the general circulation. Thus there are two circulations—the lesser or pulmonary to the lungs and the greater or systemic to the other parts of the body.

Diseases of the Heart

Cabot has classified diseases of the heart as follows:—

1. Congenital heart disease—due to defects in the development of the heart. Obviously, these diseases are present from birth. 1% of all heart diseases are congenital in origin.
2. Rheumatic heart disease—As far as incidence is concerned this group occupies the second place.
3. Syphilitic heart disease—occurring in the third stage of Syphilis accounts for a lesser number of heart cases compared to Rheumatism.
4. Bacterial or Infective heart diseases.
5. Hypertensive heart disease due to 'High blood pressure', which is by far the commonest of all heart diseases not within clinical practice.
6. Pulmonary heart diseases in the lungs.
7. Miscellaneous.

Incidence

In India heart disease occurs most commonly between the ages of 30 and 50; in foreign countries it occurs between 40 and 60.

1. *Congenital heart disease.*—As already mentioned, it is a defect in the development of the heart in almost all cases. A certain proportion of these cases live for a long time, though the efficiency of the heart is low. In the other cases (known as the Cyanotic cases since they show bluish colouration of the nails, tongue, lips etc.) the circulatory efficiency is very low and the growth and health of these patients (who are children) are restricted. Finally they end up in failure of the heart. They are also particularly prone to get the disease called 'Bacterial endocarditis'. Hence even mild infections should be carefully treated, septic foci like tonsils and bad teeth should be removed surgically.

2. *Rheumatic heart disease.*—Rheumatism affects a large part of India's undernourished population. The belief among certain persons that Rheumatism affects only the aged is wrong. On the contrary, Rheumatism, is a disease of earlier life upto the adolescent stage. The muscular and joint pains of the elderly person are due to other causes like lumbago and arthritis.

Rheumatic fever affects mainly persons—children from the age of five upto the age of fifteen, usually. It is practically unknown below 2 and first attacks are not seen at or about 30 yrs. of age. A relapse may occur at about this age.

The clinical manifestations in a child are fever, joint pains in the bigger joints like the knees with or without swelling. A doctor, if called now, can detect certain irregularities in the heart sounds, or there may be inflammation of the pericardium (pericarditis) with increase in the fluid in the pericardial sac. There may also be affection of the nervous system (Rheumatic Chorea) in which there are tremors and consequent loss of muscle power etc., This constitutes the acute stage of Rheumatic fever. After adequate treatment, the acute joint lesions and the fever subside and disappear dramatically. The heart is always affected in Rheumatic fever and may be manifested by an increased rate of the heart or other signs which the doctor can detect. Relapses occur and are to be prevented as far as possible. Rheumatic fever is believed to be a body reaction of an abnormal nature (Allergy) to a throat infection like tonsillitis or 'sore' throat. Death during the stage of fever are uncommon.

In about three to ten years after the attack of rheumatic fever, the heart shows signs of what is called the Rheumatic heart disease of the valves. As a result of the injury produced by the rheumatic fever the valves get narrowed and don't allow the blood to go from the auricle (always the left auricle) to the left ventricle or from the left ventricle to the Aorta. Or there may be widening or immobility of the valves (due to fibrosis) so that the blood gets back to the chamber from which it came instead of going always forward. If there is narrowing, it is called 'Stenosis' and if the blood gets back it is called 'Regurgitation'. In the mitral valve situated between the left auricle and the left ventricle the diseases are mitral stenosis and mitral regurgitation or incompetence. In the aortic valve between the left ventricle and the Aorta, also there are stenosis and regurgitation. Mitral stenosis is the commonest of these. Thus rheumatism "LICKS THE JOINTS BUT BITES THE HEART".

If the classical picture of rheumatic fever is present, diagnosis is easy and measures may be taken early. But in a large number of cases the acute picture is not seen and an unnoticed form occurs. Attention to the disease is drawn only when signs of heart involvement occur which may be detected accidentally during routine examination in the majority of cases. In this connection, even mild degrees of lassitude or disinclination for play or complaints of pain in the joints or legs in a previously normal healthy child should be brought to the notice of the family doctor to exclude rheumatism. Failure to put on weight is also important in this connection.

3. *Syphilitic Heart Disease.*—Syphilitic heart disease is becoming less noticed in these days due to the efficient cure of syphilis in the early stages. However, Syphilis may produce valve lesions like aortic regurgitation, aortic disease like aneurysm in which the artery is weakened considerably by the disease and the artery bulges or enlarges to form a saccular pouch. This weak spot may subsequently burst open causing sudden death. Syphilis can also produce angina pectoris.

4. *Bacterial diseases.*—Of these the most important are bacterial endocarditis and pericarditis ('ITIS' refers to inflammation in any organ of the body). The germs of

tuberculosis affect only the pericardium. Bacterial endocarditis was once uniformly fatal but since the advent of that wonder drug—penicillin, it can be cured if detected early. Usually bacterial endocarditis valves are deformed by congenital and rheumatic heart diseases.

5. Hypertensive heart disease.—Hypertension or High Blood Pressure was originally described by mistake as the early stage of Kidney disease, but later was improved upon and called 'Hyperpiesia'. High Blood Pressure may be due to what is called 'Essential' or primary hypertension or also due to diseases in other organs of which it is a symptom—symptomatic hypertension occurring in diseases of the kidneys, the endocrines or ductless glands or due to diabetes etc., Essential hypertension is the commonest form and accounts for nearly 80-85% of all cases of 'Blood Pressure'. It is present in two forms the Benign and the Malignant. The former is commoner. Also the patient may live for nearly 20 yrs. after the onset of the former while the latter kills him in 2 to 3 years.

High Blood Pressure is the commonest form of heart disease. In one of India's leading hospitals, 30% of heart diseases are hypertensive in origin. In the U. S. A. a fifth of the population suffers from High Blood Pressure. It is said that most of the high executives, officials and mental workers are hypertensive. Another curious fact is that hypertensive persons are extremely bright.

Normal Blood Pressure: The limits of normality are defined differently by various workers. Master in the U. S. A. after a wide survey of normals suggests a wide range for normal figures. Others are more conservative. All the same, a Blood Pressure reading (B. P.) of 100-160 mm of mercury for systolic and 65-100 mm Diastolic should be regarded normal. A persistent pressure of 160 mm or more systolic or 100 mm or more diastolic should be regarded high. More weight is attached to the rise in Diastolic pressure as this represents the dead weight which the heart has to overcome in the performance of its work. The blood pressure increases slightly with advancing age.

Heredity.—The one outstanding feature of essential hypertension is that in a very high proportion of cases there appears to be an inherited and constitutional basis. That hypertension and sequelae-cerebral hemorrhage (Apoplexy) and cardiac disease "run in families" is proved up to the hilt. Thus people inherit 'bad tubing'.

Symptoms.—In the vast majority of cases symptoms are not produced. Symptoms, when they appear are probably due to changes in the organs produced by alteration in the blood supply. Various heart diseases like angina pectoris, coronary thrombosis, heart failure, apoplexy, headache etc., can be produced.

6. Coronary disease.—It is rather interesting to note that until 1924 coronary disease was not recognised properly. Patients were supposed to die of 'Acute indigestion' which as we know today is no cause for death. Most of these cases were those of coronary thrombosis (probably).

Both coronary thrombosis and angina pectoris are due to diminished blood supply to the heart. In the latter it is short-lived while in the former it lasts so long as to produce irreversible death of part of the heart supplied by the branch of the coronary artery affected. Clotting of blood takes place in these cases in some part of the artery. Pain is the chief symptom of coronary disease.

It is of a constricting type in the middle of the chest (Not on the left side as popularly imagined) and going down to the left arm or the abdomen. The pain is short lived in angina and lasts for a few hours in coronary thrombosis. It is aggravated by exertion. Coronary thrombosis may produce sudden death, or a slower form of cardiac failure, or the patient may recover completely and live an active life for anything upto or even 15 years. It has a tendency to recur. Death rate in the first attack is round about 20% while in subsequent attacks it is higher. Recovery from a third attack is rare. Unfavourable signs are advanced age, severe pain for more than 12 hours, low blood pressure, fever for more than 10 days and heart failure.

Symptoms of heart diseases

1. Exhaustion, fatigue etc., Ergophobia or fear to do work in an elderly person is important.
2. Breathlessness—even after exertion.
3. Pain in the chest.
4. Palpitation or consciousness of the heart beat.
5. Swelling of ankles in the evenings and bluish colouration of nails etc.,

Cardiac Heart Failure

The layman's concept of heart failure is that it is the end of the story. But, actually the term only signifies the inability of the heart to cope up with requirements of the body. Thus, the heart may fail when the person is exerting much. While on the other hand if he takes rest or reduces his work the heart may carry on its function normally. Thus it is a relative failure. Unfortunately, this failure is a progressive thing and unless treated early and efficiently, may end in death.

Adequate treatment carried out early in cardiac failure can keep the patient moderately active (an useful citizen) for quite a long time.

Early symptoms of failure are :—

1. Breathlessness after heavy exertion to which the person may have been accustomed, also breathlessness on climbing stairs.
2. Swelling of ankle and feet in the evenings shown by the shoes getting tight on returning home from work in the evening.
3. Breathlessness at night especially if the head slips from the pillow. This is called cardiac Asthma due to failure of left Ventricle.

Heart Failures are divided into Failure of the Lt. Ventricle or Rt. Ventricle or both (mixed).

Cardiac Asthma speaks of early Rt. Ventricular failure while swelling of feet without other evidences signifies early Rt. Ventricular failure.

Left Ventricular Failure usually leads to Rt. Ventricular failure eventually in an untreated case.

4. Cough may present itself as bronchitis. If a bronchitis in an elderly person is not cured in six weeks' time we should think of heart failure (Lt).

The Electrocardiograph in diagnosis

The electrocardiograph is important in diagnosis of certain diseases of the heart. Various abnormalities of rate and rhythm of the heart are early brought to light. So also is coronary thrombosis. Indirect evidence can be obtained by the electrocardiograph in valve diseases also.

Treatment of heart diseases

The cardinal principle in the treatment of heart diseases is rest. Absolute rest in bed is essential if symptoms are experienced, or failure impends or has supervened. In the absence of the above, moderate exertion may be allowed.

Treatment of bacterial endocarditis is by means of the wonder drug Pencillin. If there is tuberculous pericarditis treatment is directed against the tuberculosis germs.

Drugs are also used in the treatment of failure. Diet control is also necessary.

Surgical treatment is carried out nowadays for congenital heart diseases and certain forms of valvular diseases like mitral stenosis. Good results are claimed.

From the above it will be learnt that heart is the most important and hardest working organ in the body. It is a muscular organ which pumps the blood continuously round and round the body.

"Muscle, as a material, holds out the highest promise for those who want to understand the basic principles of life and its architecture. A deeper understanding of muscle is urgently needed for two reasons. Cardiovascular diseases, which take such a horrid toll, are mostly diseases of the muscle, be it the heart muscle itself or muscle cells of the artery wall. It should not be forgotten that the immediate cause of most human deaths is failure of muscle and its disfunctioning causes a great deal of suffering. No rational therapy, or prevention can be hoped for without deeper understanding of muscle. Also, we can replace missing, or worn out, parts of a mechanism only if we know about them, and so the analysis of muscle may bring to light substances of therapeutic value".

The Heart or rather the Heart muscle is an automatic organ, which is readily confirmed by the structure of the tissue or of the muscle fibres of the heart. Every Muscle strip from the heart of a cold or warm blooded animal contracts rhythmically even when it is completely separated from the ganglionic cells. It must be concluded that the heart muscle itself contains substances which automatically regulate it and are likewise responsible for the working of heart muscle. The source of this chemical energy has been the subject of considerable biochemical and physiological study of muscle and substances contained in it.

A number of important chemicals have been isolated from muscle which have been fully studied.

Among the various organs of the body in continuous metabolic work, the heart is the most outstanding organ which starts functioning from the embryonic state and carries till death. The tissues of the heart must therefore require the largest amount of oxygen intake to keep in normal active condition.

The most important constituent of muscle is Cytochrome c, a very complex chemical having a complicated molecular structure. Cytochrome c is an enzyme responsible for taking part in tissue cell respiration. Haemoglobin carries Atmospheric oxygen to the blood cells. Cytochrome c carries oxygen to the tissue cells. Any deficiency in Cytochrome c would cause conditions involving tissue anoxia and consequent weakening or deterioration

of the heart. A replenishment of this important enzyme by oral parenteral route must, therefore, restore the heart tissues to their normal condition.

The biochemical and pharmacological studies of substances present in heart muscle are of great significance for a clear understanding of the working of the heart muscle. The entire movement of the heart is a muscular movement and it stands to reason that the muscular tissues of the heart, through a deficiency of cytochrome c must arise tissue anoxia. Any weakness of the heart muscle can be rectified by supplying, as soon as possible, the energy-producing substances which ordinarily are present in the heart muscle, thus effecting repair and assuring maintenance and preventing the consequent cardiac complications leading to serious trouble.

All organic diseases of the heart can be traced to an initial weakening of the heart muscle showing symptoms of damage and growing weakness such as shortness of breath on exertion, vertigo, angina, hypotonia, general lassitude and cardiovascular derangements, which originate from the degeneration of the heart muscle. If we replace the worn out and missing active chemical constituents of the heart muscle, a number of lives could be saved, and the onset of organic heart diseases can be prevented.

Recently several heart extracts are prepared by Laboratories investigating the therapeutic value of such extracts which have cured persons suffering from low blood pressure, lassitude, panting and breathlessness on the least exertion and pain in the cardiac region.

These extracts when applied have given cure ending in the disappearance of the symptoms bringing the blood pressure to normal and also making the pain in the cardiac region disappear and also stopping Dyspnoea.

The habitual drinking of strong tea, coffee, smoking and alcoholic liquors affect the heart adversely.

Severe strain overwork, nerve exhaustion, excess of all kinds also affect the heart.

Have complete rest in bed, physical and mental in case of Heart Disease.

Remove constipation. Take an enema. Eliminate the impurities of the body. Avoid overeating. Avoid stimulants. Take fruits, green vegetables and germinated grains. The diet should be light and easily digestible. Milk and fruits are beneficial.

Limit the food taken at a single meal. Take small meals often. Avoid heavy meals before bed time. An over-distended stomach is a constant source of cardiac embarrassment.

Careful regulation of diet and habits will maintain good health.

If the system is lowered then the heart also must suffer; if the general tone is raised then the heart also must share in its improvement. The cardiac tone also will be raised.

Remember the golden rule "Avoid putting excessive strain on heart". Arjun, garlic and Punarnava are beneficial.

Take heart extracts where necessary and when advised by the doctor. Cultivate a well-pointed mind. Live that sort of well-regulated and disciplined life that builds a clean, strong body.

