

WHAT DOCTORS SAY

Dr. Bansilal Vigg

M.R.C.P.(Glas); F.R.C.P.(Edin)

The book is vividly written in a lucid language. The chapter on 'Physical effects of psychological stress' is written in detail. It must find place in all public and Medical libraries.

Dr. Kiran Patel

M.S.;M.Ch.(Plastic Surgery)

The book provides knowledge of current attitudes, techniques, practice and management of the subjects within the rapidly developing field of Positive Health.

Prof. T.S. Kandaswamy

M.B.B.S.; Ph.D.(U.S.A.)

The second character of the book explores with the help of scientific evidence that the body including brain is a mechanism governed and operated by a metaphysical conscient power - the chaitanya shakti - the soul.

While reading psychophysiology of Raja Yoga one gets deeply interested to learn and practice this method. The method and practice of Easy Raja Yoga shown here is indeed a practical and easy way to gain the peace and power within.

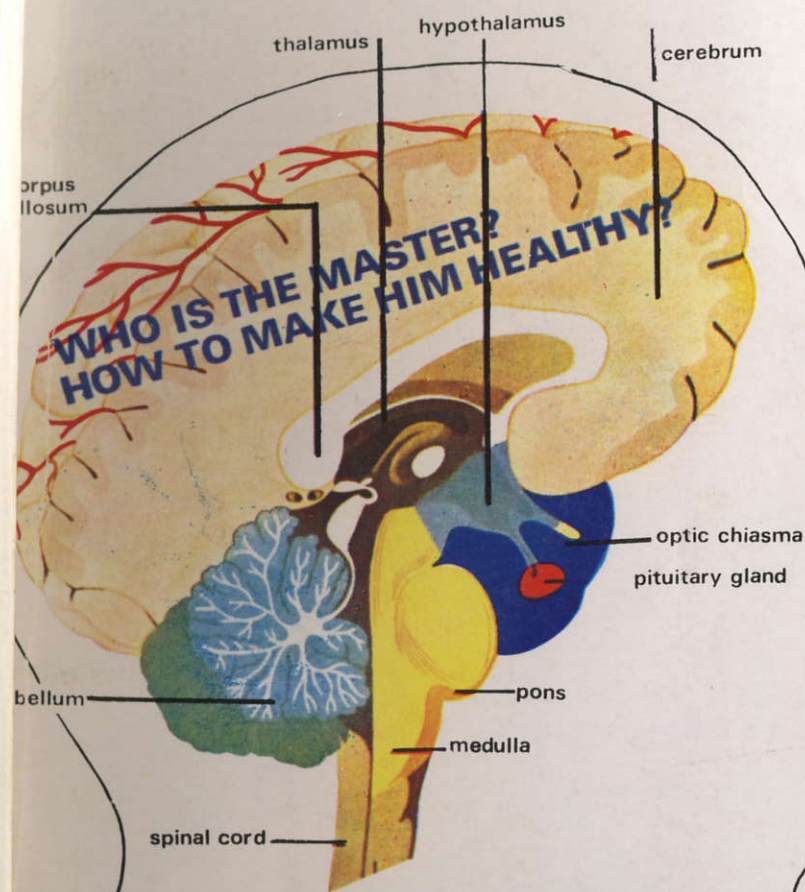
Dr. Arup Kumar De

M.D.

Positive health contains ample of scientific material to help intellectuals to achieve concentration leading to self-realization and God-realization. Technique of Raja Yoga is also described in a very effective way.

POSITIVE HEALTH

Raja Yoga Meditation for stress-free, peaceful and healthy life



- THE PHYSICAL EFFECTS OF PSYCHOLOGICAL STRESS
- MIND, SOUL AND BRAIN
- THE TECHNOLOGY OF POSITIVE HEALTH

FOREWORD TO SECOND EDITION

Positive Health

A quiet revolution has been taking place in the world of medicine in the last few years. A factor in physical disease was almost universally downplayed. Today, however, with the widespread recognition of the importance of the work of Walter Cannon and Hans Selye on the psychic causation of stress and its role in maintaining homeostasis; with the advent and success of holistic medicine as an alternative approach; with the recognition of the value of meditation in preventing disease, as well as with a series of advances in neurophysiology, a new way of thinking has gone a good way towards explaining the importance of the mind. The importance of the mind has grown into an important part of the medical curriculum everywhere in the world.



When Prince Charles, President of the British Medical Association, called for a thorough review of treatment of disease, the concept of a "stress factor" into greater relief. In the United States, the concept of "stress" as the "miraculous" cause of Norman Cousins' ailments, and as a disease such as cancer through attitudes, has brought the question dramatically into public awareness.

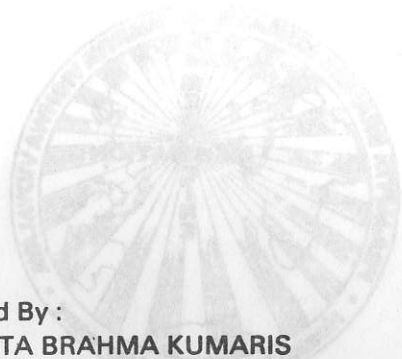
But even revolutions move slowly in the world of medicine, which applies a traditional base of assumptions and facts limited by the rigidity of training and the inertia of the medical profession.

**PRAJAPITA BRAHMA KUMARIS
ISHWARIYA VISHWA VIDYALAYA,
WORLD UNIVERSITY FOR SPIRITUAL
KNOWLEDGE AND RAJA YOGA EDUCATION**

—: International Headquarters :—

Pandav Bhavan, Mount Abu, (Raj.) INDIA.

This understanding and mastery of the mind can be achieved easily and naturally as a natural part of the spiritual education.
Gyanamit Bhavan, Shantivan,
Abu Road - 307 026



Published By :
PRAJAPITA BRAHMA KUMARIS
ISHWARIYA VISHWA VIDYALAYA
19/17, Shakti Nagar,
Delhi-110 007

Printed at Om Shanti Press
Qyanamrit Bhawan, Shantivan,
Abu Road - 307 026,

FOREWORD TO SECOND EDITION

A quiet revolution is underway in medical science. Only a relatively few years ago, the role of the psyche as a factor in physical disease was almost universally downplayed. Today, however, with the widespread recognition of the importance of the work of Walter Cannon and Hans Selye on the psychic causation of stress and its role in maintaining *homeostasis*; with the advent and success of *holistic medicine* as an alternative approach; with the recognition of the value of meditation in preventing disease; as well as with a series of advances in *neurophysiology* and clinical psychology which go a good way towards explaining the above insights, the recognition of the importance of the mental and spiritual factors in fighting illness has grown into an imperative of medical treatment nearly everywhere in the world.

When Prince Charles of England, in his official capacity as President of the British Medical Association, last year called for a thorough review of treatment and research to bring the "personal factor" into greater relief and understanding, he was merely formalizing that revolution. In the United States, various events, such as the "miraculous" cures of Norman Cousins and others from serious diseases such as cancer through attitudinal healing methods, has brought the question dramatically into public awareness.

But even revolutions move slowly in the world of medicine, which employs a materialist base of assumptions and feels limited by the difficulty of harnessing subtle psychological data to a system of laboratory testing designed to measure more tangible phenomena.

A way exists to move more swiftly to gain the fruits of this revolution, both for patients and doctors. This is to gain a first-hand, experimental understanding of the nature of the deepest levels of the mind, and of the ways of mobilizing one's spiritual resources to maintain positive health and overcome many kinds of disease.

This understanding and mastery of the mind can be achieved easily and naturally, as numerous case histories have shown, through the

correct and regular practice of Raja Yoga. The reason such meditation works so efficiently is that it is based on the accurate conceptual knowledge of the self's inner workings and thus acts as a road map to lead one gently, safely, and permanently back into one's "centre", into one's original state of inner peace and self-harmony, wherein the powers of spiritual development and physical maintenance and restoration are all automatically available.

Because Raja Yoga therapy is cognitive, depending for its efficacy on understanding, we have arranged this book in "ascending order" of conceptual substance, beginning with a short history of the medical proofs on which the paradigm of mental influence is based, including case histories; for this second edition, we have also included cases where treatment has consisted of meditation applied on a regular basis, and showing how and why this has been effective.

The second chapter continues with an analysis of the relationship of th brain, mind, and soul. The volume culminates with a description of the basic technique of Raja Yoga meditation for attaining the higher states of consciousness in which health, happiness, and well-being all naturally tend to manifest in their highest and most sustained and sustaining, forms.

25th April, 1984

Editorial Board

Note : Although the basic Raja Yoga meditation method can be successfully learned from this book alone, there can be no substitute for personal training by an experienced teacher of Raja Yoga, especially for physicians who intend to pass on the method to their patients. Such training is available to the public free of charge throughout India and in most major cities of the world through the branches of the Brahma Kumaris Spiritual University.

This understanding and mastery of the mind can be achieved easily and naturally, as numerous case histories have shown, through the
Oyanamrit Bhawan, Shantinagar,
Abhi Road - 507 028.

EDITORIAL BOARD

ROBERT SHUBOW
B.A., J.D

HANSA RAVAL
M.D.

NIRMALA KAJARIA
D.G.O.

Late. HAROLD STREITFELD
Ph.D. (Psychologist)

HEIDI FITTKAU
Ph.D. (Psychologist)

PREM MASAND
M.D.

CHAPTER - RETAINS

THE TECHNOLOGY OF PSYCHOLOGICAL HEALTH

Positive Health

Physical Organic Diseases

Mental Health

CHAPTER - SOUL AND BRAIN

Integration of Nervous Pathways

A view of The Vajral Pathway

Raja Yoga Deeds

Who is God?

Soul and The Supreme Soul

Script by :
GIRISH PATEL
Doctorate in Psychiatry

Contents

CHAPTER-1

THE PHYSICAL EFFECTS OF PSYCHOLOGICAL STRESS

1.2	Psycho-Physiological mechanism of Rheumatoid Arthritis	12
1.3	Can the Nervous System be affected by Psychological Stress? Psychogenesis of Epilepsy	13
1.4	Anxiety Invites Infection	15
1.5	Are Neoplasms only Cellular Diseases?	16
1.6	Psychological Stress - Slow Poison The Iceberg of Disease	19
1.7	The Long Arm of Psychological Stress	21
1.8	Raja Yoga as an Effective Treatment Insomnia Addiction Depression Psychosomatic disease Traumatic Injuries Purely Organic disease	21

CHAPTER - 2

MIND, SOUL AND BRAIN

2.2	Integration of Nervous Pathways A view of The Visual Pathway	36
-----	---	----

2.3	Is Mind, Material or Non-material? Physiology and Emotion Damaged Brain, Undamaged Mind The Swing of The Pendulum Mind over Matter Microelectrodes in Brain	39
2.4	A challenge from Brain Scientists Left Brain and right Brain... One Mind or two One Mind, Split vision My Eyes offer a Solution	46
2.5	Consciousness and The Computer Shortcomings of Computer The Question of Pain Who is The Programmer?	50
2.6	One more Evidence	53
2.7	Holistic Health Begins with Healthy Soul	55
2.8	Soul : The Non-material Cell In a Nutshell	57 60

CHAPTER - 3

THE TECHNOLOGY OF POSITIVE HEALTH

3.2	Positive Health Physical Health Mental Helath Social Health Spiritual Health	66
3.3	Psychophysiology of Raja Yoga	68
3.4	Easy Raja Yoga : Basic Technique Raja Yoga Defined Who is God? Souls and The Supreme Soul	70

Contents

CHAPTER-1

THE PHYSICAL EFFECTS OF PSYCHOLOGICAL STRESS

1.2	Psycho-Physiological mechanism of Rheumatoid Arthritis	12
1.3	Can the Nervous System be affected by Psychological Stress? Psychogenesis of Epilepsy	13
1.4	Anxiety Invites Infection	15
1.5	Are Neoplasms only Cellular Diseases?	16
1.6	Psychological Stress - Slow Poison The Iceberg of Disease	19
1.7	The Long Arm of Psychological Stress	21
1.8	Raja Yoga as an Effective Treatment Insomnia Addiction Depression Psychosomatic disease Traumatic Injuries Purely Organic disease	21

CHAPTER-2

MIND, SOUL AND BRAIN

2.2	Integration of Nervous Pathways A view of The Visual Pathway	36
-----	---	----

2.3	Is Mind, Material or Non-material? Physiology and Emotion Damaged Brain, Undamaged Mind The Swing of The Pendulum Mind over Matter Microelectrodes in Brain	39
-----	--	----

2.4	A challenge from Brain Scientists Left Brain and right Brain... One Mind or two One Mind, Split vision My Eyes offer a Solution	46
-----	---	----

2.5	Consciousness and The Computer Shortcomings of Computer The Question of Pain Who is The Programmer?	50
-----	--	----

2.6	One more Evidence	53
2.7	Holistic Health Begins with Healthy Soul	55
2.8	Soul : The Non-material Cell In a Nutshell	57 60

CHAPTER-3

THE TECHNOLOGY OF POSITIVE HEALTH

3.2	Positive Health Physical Health Mental Health Social Health Spiritual Health	66
3.3	Psychophysiology of Raja Yoga	68
3.4	Easy Raja Yoga : Basic Technique Raja Yoga Defined Who is God? Souls and The Supreme Soul	70

	The Dimension Beyond	
	The Four Stages of Raja Yoga	
	All Yogas in One	
3.5	A Sample of Meditation for Beginners	82

	To The Reader	83
--	----------------------	-----------

APPENDIX

	Glossary	87
	Bibliography	90

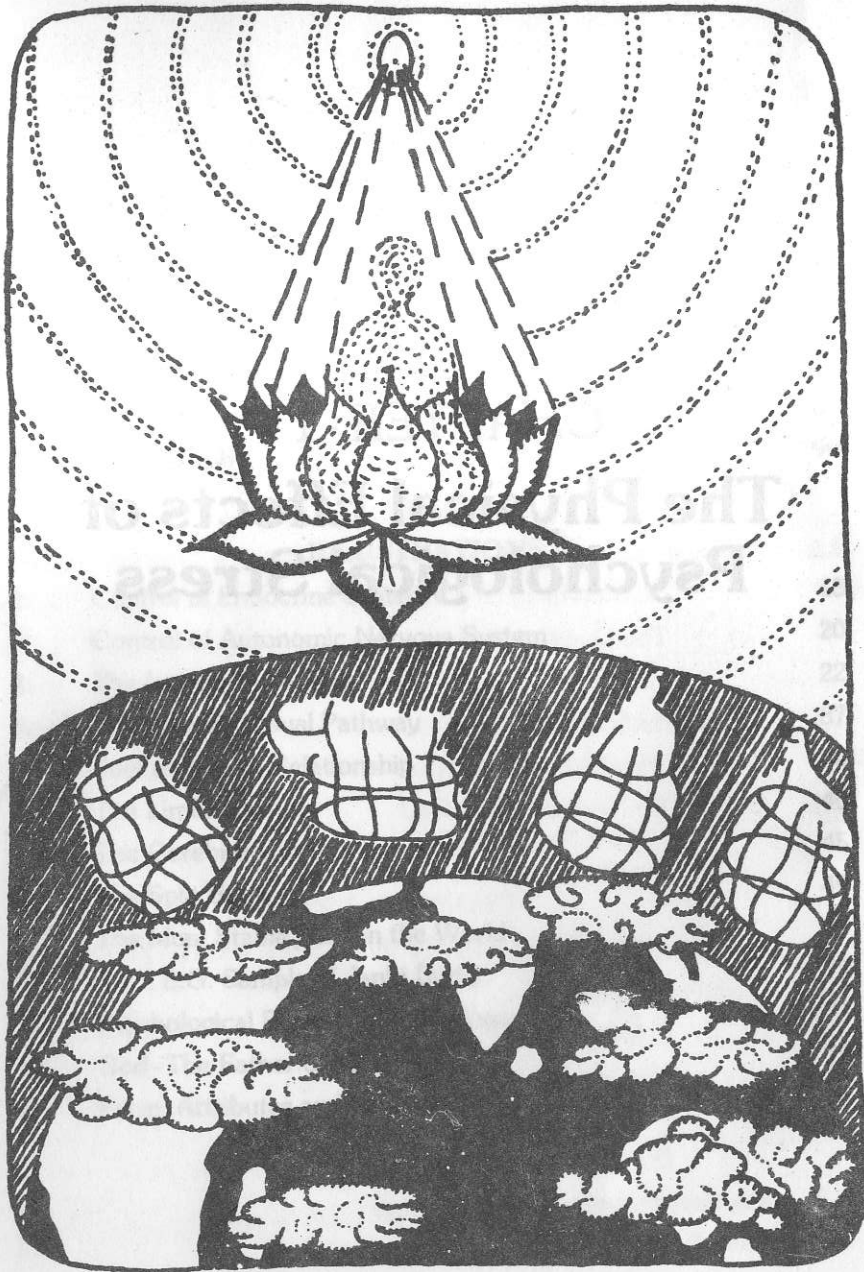
ILLUSTRATIONS

1.	Control of Endocrine System	18
2.	Control of Autonomic Nervous System	20
3.	The Iceberg of Disease	22
4.	The Specific Visual Pathway	37
5.	Soul and Brain Relationship	38
6.	The Limbic System	40
7.	The Cerebral Cortex	45
8.	The Split Brain	49
9.	The Most Stable Mind in the World	71
10.	An E.E.G. Sample of Janki Dadiji	72
11.	Psychological Benefits of Raja Yoga	73
12.	God - The Father of All	75
13.	Form, Attributes and Name of The Supreme	76

CHAPTER - 1

The Physical Effects of Psychological Stress





Liberation from bondage of worries, fear, anxiety, negative thinking etc. through Raja Yoga Meditation.

The Physical Effects of Psychological Stress

How did physicians come to accept the fact that the mind plays a major role in both causing and healing disease? It was simply a matter of hard facts. Consider this case, for example, reported some years ago in a well-known medical journal :

A woman, aged 45, was suffering from *toxic thyroid goiter*. Her goiter was surgically removed. Then, indigestion set in and a gastric ulcer developed, which required three years of treatment. After the ulcer was healed and the doctor thought the case finally closed successfully, a diagnosis of chronic *nephritis* and high blood pressure was made. All this went on for almost ten years, when at last her physician, an excellent internist, decided that it might be worthwhile to investigate the patient's emotional life. As he said, "We have worked to the best of our ability and no sooner do we get one disorder cleared up than another becomes apparent". Treatment of the patient's emotional problems led to significant improvement in her health.

This case (reported by Muhl) is a typical example of the way symptomatic treatment has neglected the true psychological cause of disease. Fortunately, it is no longer as common as it once was, and most patients have a good chance of coming into the care of doctors who are aware of the psychological factor in altering health. Whether they know accurately how to manipulate that factor to produce "psychic antitoxins" is another question. This volume is only a beginning in making that knowledge available to both physicians and patients.

The study of the role of stress in causing and healing disease came into its own with the work of Cannon and Selye, who carefully studied what happens to the various organs of the body in the presence of stress (which Selye defined clinically as "the nonspecific response of the body to any demand made upon it"). They uncovered a great deal of evidence that a change in organic function does indeed take place under stress. Selye also noted that emotional stimuli were the most common stressors.

A number of ailments have since then been identified (and the list gets longer every day) which have known stress-related origins. Depending on one's constitution, the nonspecific response to stress may affect almost any organ system in the body.

The following table lists the most common stress-related diseases, according to the organ systems they attack :

Table : 1

Psychological stress leads to undermentioned symptoms or diseases.

SYSTEM	NAME OF THE SYMPTOMS OR DISEASES
DIGESTIVE	Anorexia Nervosa, Peptic Ulcer, Ulcerative Colitis, Irritable Colon, Cardiopasm, Spastic Colitis, Nervous Vomiting & Diarrhoea.
RESPIRATORY	Asthmatic Wheezing, Bronchial Asthma.
CARDIO-VASCULAR	Angina Pectoris, Coronary Insufficiency, Essential Hypertension, Tachycardia, Arrhythmias, Vascular Headache.
ENDOCRINE	Hyperthyroidism, Diabetes Mellitus, Menstrual Irregularities.
SKIN	Urticaria, Warts, Neurodermatitis, Pruritus, Psoriasis.
CONNECTIVE	Lupus Erythematosus, Dermatomyositis, Scleroderma, Polyarteritis Nodosa.

1.2 THE PSYCHO-PHYSIOLOGICAL MECHANISM OF RHEUMATOID ARTHRITIS

Let us examine another common disease : rheumatoid arthritis. For many years, it has been known that psychological stress plays a part in the causation and the worsening of this debilitating ailment. But the vital question for physicians was : what are the possible mechanisms by which stress gets translated into the arthritic symptoms?

It was noted in cases of rheumatoid arthritis, that both *collagen synthesis* and *metabolism* became disturbed. Several hormones are involved in the regulation of these, principally *growth hormone*, thyroxine, androgens, estrogens, and the *adrenal corticosteroids*. All of these hormones were shown by further investigation to vary with psychological stress.

The changes in muscle *tone* associated with stress were also found to be disease factors. The joint deformities, for example, which develop in cases of

rheumatoid arthritis are now recognized to have their origin in muscle spasms combining extensor spasm and flexor contraction (Rodnan, 1973).

In another now-classic experiment (Rimon, 1973), psychological testing was done on a carefully selected group of 34 female in-patients with definite rheumatoid arthritis. The only difference in the two groups was that the first were all *seropositive* and the later *seronegative* (meaning those in whom no physical cause for the disease was present).

The test scores of the seropositive patients were lower than those of the seronegative in all categories and reached the 0.05 level of significance in the rating of verbal aggression, suspiciousness, and in the total score.

In the seronegative group, moreover, the presence of emotionally significant life stress at the onset of the disease was more frequent than in the seropositives. The genetic factor was also more significant in the seropositive group, who had a higher incidence of relatives with rheumatoid arthritis. It was thus determined that in the seronegative patients psychological stress was a major causative agent.

1.3 CAN THE NERVOUS SYSTEM BE AFFECTED BY PSYCHOLOGICAL STRESS?

Not long ago the *central nervous system* was considered to be a rigid and unmodifiable director of the various paradoxical reactions of the bodily systems to the best tested therapeutic regimens. Now it has been learned that the central nervous system is also susceptible to psychosomatic damage.

An excellent explanation of this discovery was presented by A.M. Rabiner and M. Keschner in an article on the role of psychic factors in the production of organic nervous disease. They referred to the great number of patients who in the course of routine neurological examination presented no objective findings and were consequently diagnosed as suffering from "non-organic" or "functional" diseases and were treated as such. Many of these patients returned after varying periods of time, however with undoubted evidence of organic nervous disease. After a discussion of their abnormal *lipoid metabolism*, the authors state : "It seems to us that the evidence adduced hitherto is at least suggestive of the important role that psychical factors play in the genesis of organic disease of the central nervous system." They reported three personal cases and conclude :

1. The evolution of some organic nervous disease may occur in two phases: (a) the early "non-organic" and (b) the later organic phase.
2. The transition between these two phases may be imperceptible and only appreciated after prolonged observation by the same observer.
3. During this transition there may occur structural change in the nervous system resulting from emotional disturbances during the first or "non-organic" stage.
4. Evidence is adduced that not only is it the case that structure may influence function, but also that function may influence structure.
5. An explanation is offered that psychical factors, acting upon the *autonomic nervous system*, affect lipid metabolism and so produce structural change in the central nervous system.

It had been generally thought that emotions express themselves through the autonomic nervous system. Although externally it is not evident, the *voluntary system* too is an instrument of the emotions. R.N. Malmö's research resulted in the same observation :

"The attention directed towards the *homeostatic* role of the autonomic nervous system in emotions has unfortunately led us to neglect the part played by the voluntary system or *Motor system*. *Muscle tension* changes in emotions cannot be fully understood in terms of increased supportive function by the autonomic nervous system. The motor system is characterised by shorter *latencies* of reaction than the autonomic system. In some emotion-producing situation, skeletal muscle tension may complete a cycle of rise and return to prestimulation level, well before autonomic homeostatic mechanisms have had sufficient time to complete their cycles. This makes it necessary to seek a homeostatic mechanism with direct control over somatic (skeletal) motor activities by the voluntary system." In other words, psychological stress can produce diseases of the somatic motor activities through the medium of the voluntary system. The influence of the mind over the body is thus far greater than had been previously thought.

Psychogenesis of Epilepsy

Every medical practitioner knows that *epilepsy* is due to local electrical discharges in the brain. It may be considered as an organic nervous disease, yet *epilepsy* is known to be very often psychically precipitated (F. Fremont, A. Ohiabov). *Epilepsy* may even be caused entirely by emotional tension. S.

cobb has pointed out a psycho-physical mechanism in the production of epileptic attacks. "The emotional element in many cases is obvious at least as a precipitating factor. Many a patient will tell how his *seizures* are brought on by emotional stress. It is observed that *convulsions* which may be caused by emotional stress have definite theoretical explanation in physiological mechanisms. Fight, anger and other emotions are known to cause pallor of the face and changes in blood circulation elsewhere in body. Emotion with its resulting vasoconstriction might cause a sudden and brief reduction of oxygen supply to the brain. For example, a body previously frightened several times by dogs, was observed to have a fit with signs of 'organic' changes in the brain when accidentally barked at by a dog in our laboratory."

1.4 ANXIETY INVITES INFECTION

It was once commonly thought that infectious diseases are only due to infective organisms. Contrary to this common belief a number of observations revealed that *colonization* of a host by infective organisms does not necessarily result in illness. It is the body's own level of resistance, which varies with stress, which is the causative factor.

Anxiety and other stresses also influence the rate of recovery from such diseases as *infectious mononucleosis* (Greenfield, 1959) and *influenza* (Imoden, 1961) as well as the susceptibility to *rhinovirus* induced common cold (Totman, 1977) and *tularemia* (Canter, 1972). Recurrent *herpes simplex* lesions have been shown to be most frequent in persons who tend to feel depressed (Katcher 1973; Luborsky 1976). Anger has been known moreover to alter the bacterial composition of the intestine (Holdeman, 1976).

From the physiological perspective, psychological stress increases the production of *ACTH-releasing factor* in the *hypothalamus*. Therefore, secretion of *ACTH* (*adrenocorticotrophic hormone*) from the pituitary is raised. *ACTH* stimulates the *adrenal cortex* to increase the level of corticosteroids. The increased blood concentration of corticosteroids and other steroid hormones in turn depresses the *immunological defence mechanism*, which increases the body's susceptibility to infective organisms. Experimentally, adverse mental reaction to separation (Coe, 1978), and clinical depression (Sachar, 1975) have been shown to increase the corticosteroid levels.

Epinephrine and *norepinephrine* (which are *catecholamines* hormones secreted by adrenal medulla) are regularly increased in response to stressful

conditions (Frankenhaeser 1971). Both have been found to decrease various immune responses including *anaphylaxis* (exaggerated physiological responses) (Schmutzler and Freundt, 1975) and *delayed cutaneous hypersensitivity* (Kram 1975). The evidence also suggests that stressful life events are associated with increased *uric acid* levels that may suppress the immune function (Croe, 1969). Stressful life experiences have also been found to induce elevation in *free fatty acid* (Frobérg 1971) and *cholesterol* (Kasl, 1968) levels, both of which have immuno-suppressive effects (Dilman, 1977).

The work of Meyer and Heggerty represents one of the few attempts made to consider both immune system parameters and psychological stress in onset of an infectious disease. They prospectively studied for a period of one year, members of 16 families with systematic *throat culture* for *hemolytic streptococi*, periodic measurement of *antistreptolysin-O-antibody* titers and clinical evaluation of illness. It was found that not only were acute and chronic family stress important factors in determining whether a person became susceptible to streptococcus or became ill after colonization, but also that psychological stress influenced the proportion of persons in whom there was a rise of *antistrepto-lysin-O-antibody titers* after infection.

1.5 ARE NEOPLASMS ONLY CELLULAR DISEASES?

A conference on psychosomatic aspects of *neoplastic diseases* was held in Cambridge, England from 22nd to 26th July, 1963, under the auspices of the International Psychosomatic Cancer Study Group. In the conference, thought-provoking papers were presented to draw attention to the importance of the much-neglected psychological causes of neoplastic diseases.

That emotional conflicts play an important role in the occurrence of malignancy was shown in the work of G. Nemeth and A. Mezel, using a combination of *Rorschach Tests* and analysis of patients backgrounds and life histories. Smither, one of the leading specialists in the field, concluded from many other observations: "Cancer is no more a disease of cells than a traffic-jam is a disease of cars". In other words, the fast multiplication of cells is not the cause of cancer.

Psychological stress plays a role in both the causation and course of the disease. Stressful life experiences frequently precede the clinical onset of

various neoplasms (Leshan, 1959), including cancer of the *cervix*, *leukemia*, and *lymphoma* (Greene, 1966). Breast cancer is thought to be congenitally determined, and psychological stress is not related to its occurrence according to Schonofield (1975). But he has gone on to find that there is a positive relationship between stress and *benign breast disease*. The predictive study of Schmale and Ikar is even more provocative. A group of women identified as having suspicious *papanicolaou smears* were studied and *cone biopsy* of the *cervix* was performed. The investigators were able to predict the diagnostic outcome of the subsequent biopsies on the basis of how each patient tended to react to life situations, whether with hope or hopelessness. Early life experience also seems to play a role in tumour growth. For example, infantile stimulation was found to modify the course of *walker-256 sarcomas* in rats (Aeer and Friedman, 1965).

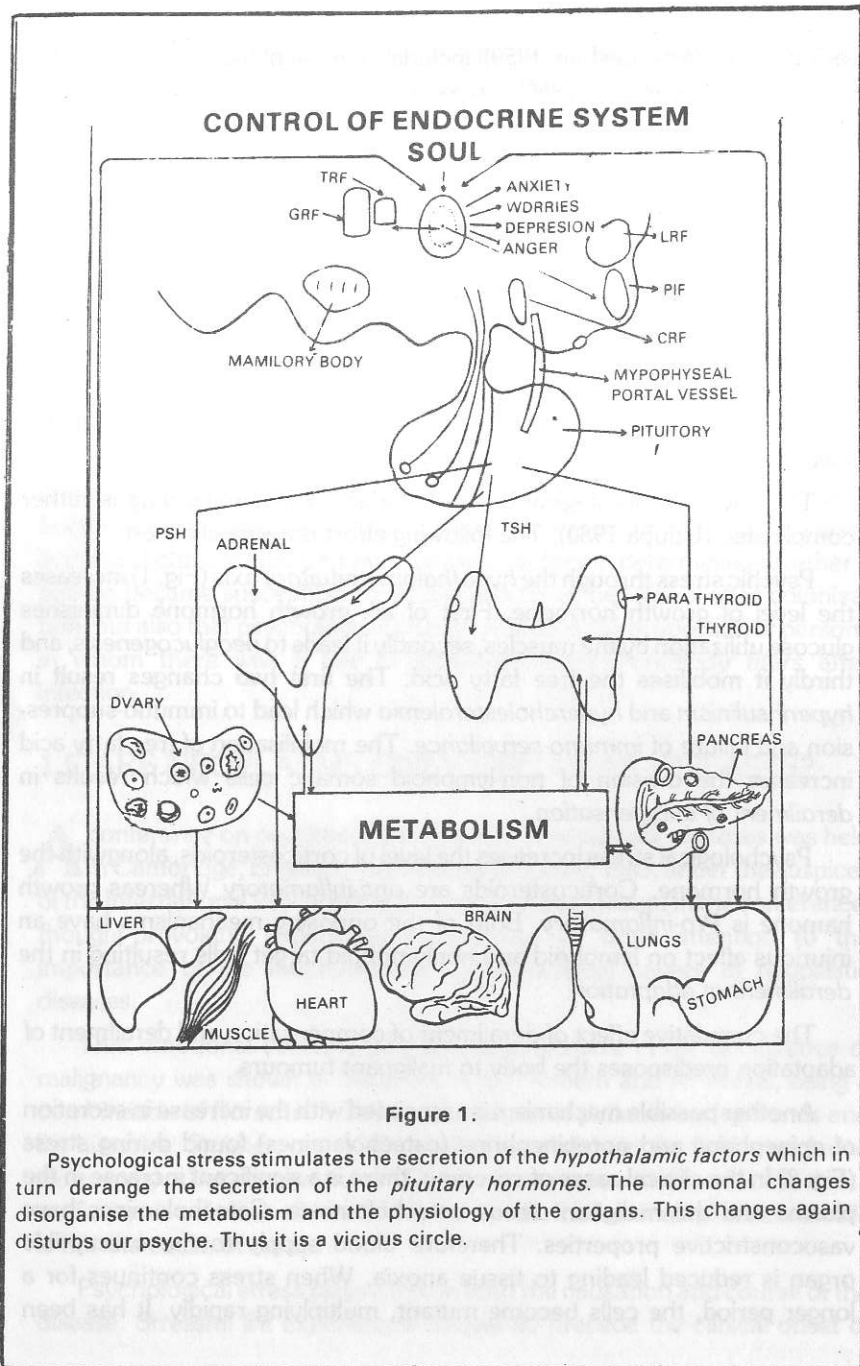
The psycho-physiological basis of the above understanding is rather complicated (Udupa 1980). The following effort is a simplification.

Psychic stress through the *hypothalamo-pituitary axis* (Fig. 1) increases the level of growth hormone. First of all, growth hormone diminishes glucose utilization by the muscles, secondly it leads to *neoglucogenesis*, and thirdly it mobilises the free fatty acid. The first two changes result in *hyperinsulinism* and *hypercholesterolemia* which lead to immuno-suppression and failure of *immuno-serveilance*. The mobilisation of free fatty acid increases the division of non-lymphoid somatic cells which results in *derailment of compensation*.

Psychological stress increases the level of corticosteroids, alongwith the growth hormone. Corticosteroids are *anti-inflammatory*. Whereas growth hormone is *Pro-inflammatory*. Both of the opposing mechanisms have an injurious effect on lymphoid and nonlymphoid target cells resulting in the *derailment of adaptation*.

The cumulative effect of derailment of compensation and derailment of adaptation predisposes the body to malignant tumours.

Another possible mechanism is associated with the increase in secretion of epinephrine and norepinephrine (catecholamines) found during stress (Fig. 2) In the clinical cases of *sarcoma*, there is a significant increase in the plasma and the malignant tissue catecholamines. Catecholamines have vasoconstrictive properties. Therefore blood supply to the susceptible organ is reduced leading to tissue anoxia. When stress continues for a longer period, the cells become mutant, multiplying rapidly. It has been



demonstrated by Warburg that the cancerous cells need oxygen, and these cells die due to lack of oxygen, multiply fast.

From the experimental study and psycho-physiological mechanisms, one can say that psychological stress when continued for years, directly increase the chances of development of various neoplasms. Mental peace and stability are thus major factor in the prevention of deadly disease.

1.6 PSYCHOLOGICAL STRESS-SLOW POISON

When one becomes emotionally disturbed, why is organic illness not seen immediately? This is a very good question, because if organic illness followed every emotional disturbance, there would be no need for this book. Rather, the organic illness by itself would have taught us the great lesson of the need to retain emotional balance. In fact, our body has a large amount of reserve capacity. For example, our heart possesses four to six times more capacity than the minimum required. Thus only when the capacity of the heart is reduced four to six times below normal do we suffer heart failure. Likewise, a good surgeon can remove twelve feet of small intestine out of the twenty-two feet of its normal length without harming digestion. In the same way, he can remove one kidney without reducing the normal performance. Our *bone marrow* can increase the production of red blood cells almost seven-fold whenever required. The fact is, then, every emotional disturbance does cause organic changes and reduces the attacked organ's reserve capacity. But only when all of our organic reserve is depleted we do suffer from overt organic diseases (clinical cases). The process of depletion of reserve capacity may take many years before clinical cases are seen. In this way, psychological stress acts as a slow poison.

The Iceberg of Disease

The phenomenon of the "iceberg" of disease is illustrated in fig. 3. The floating tip of the iceberg represents what the physician sees, i.e. the clinical case. The submerged portion of the iceberg represents the hidden mass of disease. The slow poison of psychological disturbance gradually builds up this hidden mass and the disease ultimately becomes apparent.

Therefore one must not become alert only when clinical detection of a disease is made. One must put forth great efforts to preserve the reserve capacity of the body by leading an emotionally stable and healthy life.

Control of Autonomic Nervous System

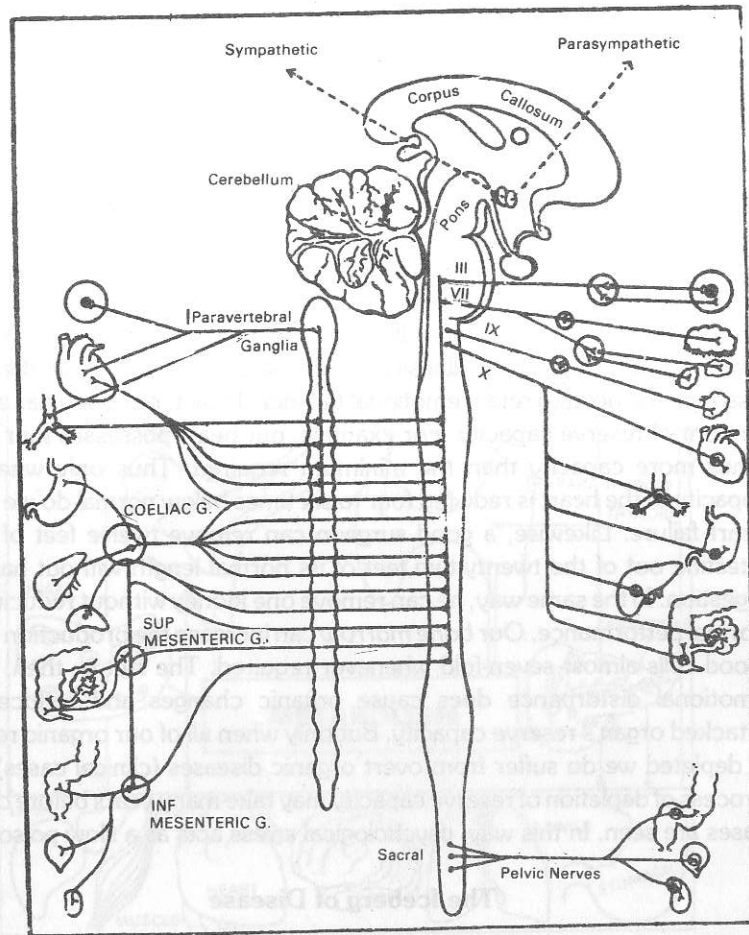


Figure 2.

Balance between the sympathetic and parasympathetic components of the automatic nervous system is essential for the health. Stress deranges the controlling centres of the system situated in the hypothalamus. Therefore, the function of the many organs get hampered.

1.7 THE LONG ARM OF PSYCHOLOGICAL STRESS

ALONG with predisposing us to so many diseases stress reduces the lifespan of cells, memory, and working efficiency.

In genetic engineering terms, stress increases the conjugation of RNA (Ribonucleic Acid) and DNA (Deoxyribonucleic Acid). It also increases the free radical of RNA in the cells. Both these effects together reduce the life span of cells. This change takes place in all the cells of the body. Thus chronic stress, brings on premature old age.

The conjugation of RNA and DNA, and production of the free radical of RNA in the neurons is extremely hazardous because the neurons cannot be regenerated, once they are destroyed. This change normally due to stress, diminishes memory and intellectual power. This effect was observed in students who are anxious and excited (or depressed) during examinations. Thus, stress has a very long arm, and affects health in many ways.

1.8 RAJA YOGA AS AN EFFECTIVE TREATMENT

Understanding the effects of stress is one thing; doing something about stress is another. Conventional psychologists have suggested a number of stop-gap measures to reduce stress, but none of them get at the root cause of stress, they merely seek to ameliorate currently stressful circumstances. Some of these ideas have been to change jobs, to find more leisure time, to find someone to talk about one's troubles to, to take up a hobby, to change one's lifestyle. The more perceptive doctors counsel the making of deeper psychological changes : to be honest with oneself and others, to act with maturity and to make decisions firmly, to give up artificial crutches like alcohol and drugs, to increase one's personal strength.

All of those goals may be good, yet the question remains how does one get the inner strength even to make those changes? How does one get the peace and clarity of mind to realize what steps are really necessary and possible to affect those changes? And how does one get the flexibility to live even in what may be considered "stressful" circumstances-since it is not always possible to change external conditions without feeling distressed by them?

That is where the efficacy of Raja Yoga treatment comes in. It is not based on changing anything external, but rather one's internal responses to external demands. Thus, the treatment is useful to everyone in all

The Iceberg of Disease

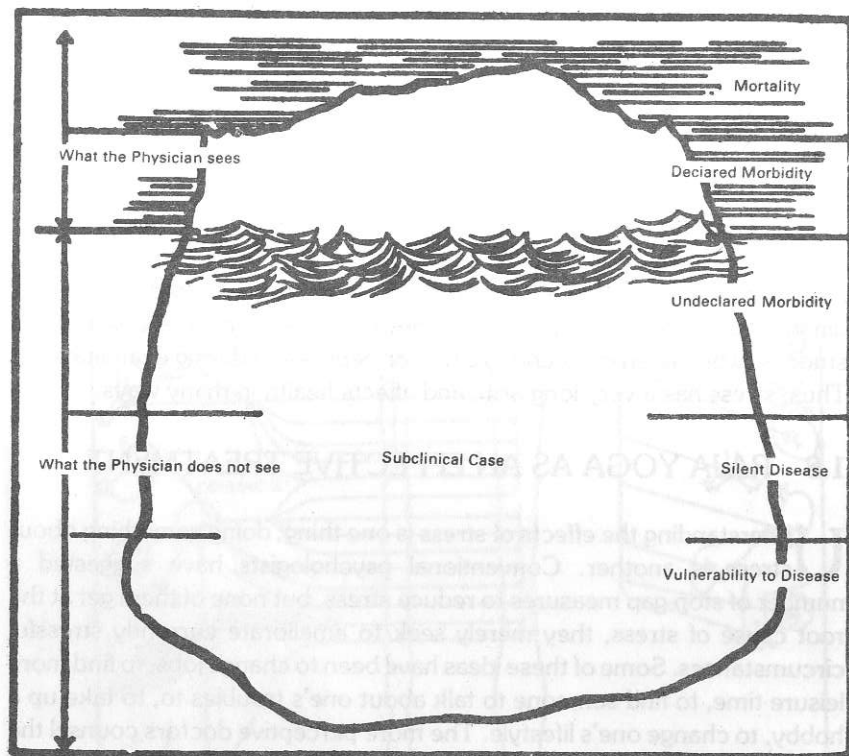


Figure 3.

Every one desires to keep oneself healthy. But most of the people think that, absence of disease is the sign of good health. It is a myth because a disease is like an iceberg. As only the tip of an iceberg is seen outside water, likewise, only a small portion of a disease is clinically detectable. Therefore to prevent the occurrence of disease which is far more better and cheaper than cure, one can adopt Raja Yoga as explained in the book.

circumstances. Moreover, just a few days of practice is sufficient to achieve mental and physical relaxation, which in turn is enough to allow one to focus perception and volition towards understanding and curing the personality factors which enter into stress production. That understanding is increased further by application of the spiritual knowledge on which the meditation is based.

This value of relaxation has also been documented medically. A practising neuropsychiatrist in California, Late Dr. David Fink, writes in this connection: "Relaxation stops the emotions that prod the interbrain and forebrain into misbehaviour. Skill as well as good health depend upon relaxation". Thus, relaxation is the first step towards good health.

External events themselves generally do not raise mental tension. Rather, it is the repeated thinking over of an event ("I can't believe the boss said that to me... what nerve....he actually said that...") - the repetition going on both consciously and unconsciously, awake and asleep - which raises mental tension levels to dangerous heights.

The control over the mind achieved through Raja Yoga practice makes us able to halt this repeated brooding over stressful events. We become able to easily re-channel our mental energies into positive—and even blissful—directions, and to intuit solutions to stress-causing events which are life-enhancing for all concerned, rather than negative or destructive towards self or others.

We know that under the same set of circumstances, one person will become anxious while another will remain calm and cheerful. The difference has to do with attitude towards the event and even more with one's general personality complex and understanding of life. By gaining spiritual insight into the laws of human action and interaction, our attitude towards life situations naturally tends to become tolerant, positive, and creative. This gives us the means to retain stability and peace of mind even under adverse conditions.

In the words of Dr. Fink again (from his book, "Relieve From Nervous Tension"): "Your attitudes are the higher-ups, the big shots in your mental life. They are the habits that sit in the driver's seat. When you can boss them, you are in control of your own life. You become invulnerable and nothing can hurt you."

Or in the words of the pioneer in stress research, Dr. Hans Selye: "Rather than relying on drugs and other techniques, I think there is a better way to handle stress. Attitude determines whether we perceive any

experience as pleasant or unpleasant." There is no better way to beneficially transform one's attitudes than through the practice of Raja Yoga.

Let us now examine a few case histories which illustrate that claim :

Insomnia

The more common minor ailments such as headache and insomnia are nearly all stress-related, and have been successfully treated simply by regular meditation practice. Consider, for example, the report of Dr. B (True names are not given to maintain confidentiality.) on his own experience: "I was born in a well-to-do family and had been treated with love and affection throughout my life. Being the only son, I had to look after our business after completing medical school. Because of business worries and other tensions, I was not able to get to sleep at night without taking sleeping pills at least once or twice a week."

"I first became impressed by the effectiveness of Raja Yoga when a man who had learned meditation at the Brahma Kumaris Raja Yoga Centre in London told me how he had completely got rid of alcoholism and chain smoking within a span of one year, with the help of yoga practice and spiritual understanding. That gave me the impetus to experiment with it myself. Thanks to Raja Yoga, for the past three years I have never had a single occasion to take a sleeping pill. I have also become a more tolerant and peaceful person."

I was consulted by a 30-year-old woman with sleep disturbances. On the first day, I told her the basic philosophy of Raja Yoga and gave her some examples of positive thinking based on the accurate spiritual knowledge. Subsequently I taught her the art of meditation in very plain language. I also prescribed a light dosage of sleeping pills. Within one week she found a great transformation in her attitudes towards the family problems she was facing. With the help of meditation practice she gained a great deal of confidence in her ability to overcome the sleep problem and told me, "Doctor, now you may discontinue with the drugs. By practising meditation alone, I can have a sound sleep." After a few days, the drugs were discontinued, yet she was indeed able to have sound sleep. There was no relapse.

Over sixty percent of the population experience disturbed sleep or complete sleeplessness, either chronically or occasionally. Insomnia has never killed anyone, but to the person suffering from it, insomnia is as debilitating as anemia and as nagging as an ulcer. Apart from physical causes such as organic malfunctioning, it is anxiety—in all the breadth and

complexity of that concept—which explains most sleep aberrations.

Anxiety causes nightmares and night terrors in children, and it is the most frequent cause of sleep walking and sleep talking. Even small worries can precipitate insomnia, as the person lies in bed "over thinking" and fearing that he will not be able to sleep, thus ensuring that very outcome. A vicious circle ensues, continually, increasing the severity of the problem.

Since worries and overthinking are the prime causes of insomnia, the cure is obvious: stop worrying, especially at bedtime. Unfortunately, that advice, though true, is very difficult to put into practice. A period of meditation, ranging from ten minutes to half an hour, just before going to bed, is usually successful in eliminating the problem.

Meditation works by relaxing the mind. The peaceful mind quickly spreads its effect to the hypo-thalamus, the region where the sleep centre is located. When the blockage there is removed, natural and harmonious functioning of the sleep centre is restored.

Addiction

Dr. D. was a 40-year-old ear, nose and throat surgeon. He was a chain smoker with a very short temper. Even during surgery, he used to smoke. He lost his temper frequently, even in facing minor family and social problems. Occasionally, over destructive behaviour occurred. After coming in contact with the Brahma Kumaris Spiritual University, and practising meditation for one month, he completely stopped smoking. His nature became a more tolerant and peaceful. When I visited his city during a lecture tour on "meditation as medicine," a participating doctor told me of the case adding, "From having seen the example of Dr. D., I must fully agree with you that meditation can help to overcome addictions". D.'s wife, also a medical graduate, told me, "Now our family life is very happy. I am grateful to the Brahma Kumaris University for transforming the personality of my husband".

Ashok, a 24-year-old bus conductor, came to the local Raja Yoga Centre at Goregaon, Bombay, where I myself study meditation. when I asked about the object of his visit, he said he was chronic alcoholic, suffering from sleep disturbances and nervousness. Due to the disease, his working capacity was reduced to about two hours a day. For the past two years he had been taking psychopharmacological drugs and had taken a number electro-convulsive therapeutic treatments, all without success.

I patiently listened to his story and told him that I would do my best to

help him using spiritual knowledge and Raja Yoga. After completing the basic course of seven days, he said that he was benefitted up to forty percent in overcoming his chronic depression. After one month; he had completely stopped consuming alcohol and was ninety percent better. Even his working capacity improved and meditation helped him to be able to resume his job completely.

After three years, when I met him by chance on a bus, he said that he was still able to maintain the benefits he had achieved. Ashok is an excellent example of the therapeutic benefits gained through the art of meditation based on cognitive spiritual knowledge.

Although people take drugs, alcohol, and tobacco for many reasons, including for the improvement of their working capacity, as well as for pleasure and a feeling of calmness, these temporary benefits are soon used up, while the mind and body become conditioned to the substance and crippling dependence develops. It is then very difficult to break the addiction. Even when the body becomes wrecked with pain and incapacity as a result of the addiction, the addict cannot shake off the dependency.

Meditation helps to overcome addictions in a number of ways. Firstly, a practitioner experiences an immediate sense of tranquillity and relaxation during Yoga. This natural feeling of well-being removes the intense craving for the artificial alternative. Secondly, by tuning his mind with God, who is the ocean of all spiritual powers, the patient is able to inculcate the ability to increase his own will power, and thus initially at least to reduce the dosage and regularity of his addiction. Thirdly, the deep experience of peace, love, and purity as the original attributes of the soul results in a natural aversion therapy and creates a real and inwardly felt emotion of repulsion toward the unhealthy habit. Fourthly, when a person reduces the dose of the drug with the help of meditation, a new self-confidence and faith in the technique are created. Thus, he takes a deeper interest in the practice of meditation and his general habits of thought are changed, his inner power keeps on increasing, and in due course he is able to overcome the unhealthy habit completely. The Brahma Kumaris University has documented that because of these multiple benefits, most of the people who undertake regular Raja Yoga meditation stop smoking, drinking alcohol, and using drugs completely.

Depression

Mrs. S., a 22 year old woman, had thrice attempted suicide. She suffered depression after her husband had a severe brain damage. For the

following five years, he was completely bedridden. In the beginning, she selflessly cared for him, hoping that he would improve. But as many years passed by without any sign of improvement, she gradually became hopeless and depressed. Her mother-in-law brought her to the local Brahma Kumaris centre. At first, she was reluctant to come, but when the teacher there listened to her problems sympathetically, she continued her visits. The teacher showed her how to give powerful spiritual vibrations to help her husband. Her interest in the art of meditation gradually developed. When the laws of action and reaction (Karma) were explained to her in detail, her mind became very clear and peaceful. Her depression disappeared and her temperament returned to normal. She continued to give pure and powerful vibrations through meditation to her husband.

Consider the case of Dr. G. "Since my childhood, I suffered from a lack of self confidence and an inferiority complex. I was afraid to mix with my friends and to appear in examinations. This was increased to an abnormal level in my adult life. While driving a car, if the tyre went flat, then although I knew perfectly well what to do, I would start trembling and perspiring terribly. I then wouldn't be able to lift the trunk or apply the jack properly."

"This happened in almost every situation. To overcome these difficulties, I had tried many methods. I had used psychological drugs and psychotherapy for more than two years. I went to religious gatherings. I had even tried smoking, drinking, and habit-forming drugs without much success. Ultimately, I became extremely frustrated and was burdened with chronic depression. During my most miserable period, one day one of my patients invited me to visit the Brahma Kumaris Raja Yoga centre. There one brother introduced to me the technique of Easy Raja Yoga. He told me that I am not the physical body but rather a conscient point of light and might residing in the centre of the forehead. At first, I thought 'this is all imaginary and won't help me'. But as he demonstrated the art of becoming soul-conscious, I experienced myself as a peaceful and pure soul, separate from the body. I felt very light and peaceful for the whole day."

"Then I attended the basic course of seven days in the fundamentals of Raja Yoga and spiritual knowledge. The information which I got there totally changed my outlook towards life. Now I understand events from a radically new perspective, and feel a great deal of self-confidence. My friends and family are also able to observe this change in my behaviour. I owe all this success to the art of positive thinking I learned there."

The underlying cause of many psychological diseases is simply negative thinking which has taken root deep inside the subconscious mind, often from childhood and even earlier. The adage, "as you think, so you shall become," accurately portrays the self-fulfilling prophecies which then come to disturb the person's life. Meditation can erase negative thought patterns and enable a person to re-programme his flow of associations and mental tendencies. In this way, without years of conventional psychotherapy, the psychological problems can be removed easily, quickly, and permanently.

Meditation has been shown to be particularly useful in treating neurotic illnesses, rather than psychosis, because patients must be sufficiently in touch with reality to understand the nature of their condition in order to learn and develop the will to practise meditation.

The initial relaxation it brings leads to a tranquil state of mind in which one can resolve the conflicts and overcome unconsciously-held muscle tension. Even more important, the subtle rays of light and might received from the Supreme Father while meditating disintegrate repressed dissatisfactions with self and others. Thirdly, the psychophysiological rest gained through meditation helps one to regain lost energy and cancel feelings of helplessness.

While meditation alone cannot cure such psychotic disorders as schizophrenia, in conjunction with drug treatments and other techniques, it can be of immense benefit. No other method can so successfully re-mould a person's personality.

Psychosomatic Diseases

Mr. R. had been suffering from a peptic ulcer for two years. A casual enquiry revealed that his life was full of tension. One of my doctor friends who had been practising Raja Yoga for several years described to him the fundamentals of meditation. After ten days, the patient said, "The knowledge you are giving me helped me greatly to overcome the mental tension, yet I am not completely free from pain in the upper abdomen."

Such remarks are frequently heard from people with psychosomatic diseases who learn meditation. This is because once a disease has reached the level of organic malfunction, meditation alone cannot eliminate the already occurred damage. Meditation definitely helps to overcome the root cause, which is in the mind. But to heal the organic damage, conventional medicine which acts at the physical level is also necessary.

Many diseases start in the psyche (the mind, or soul) due to its misidentification with the bodily vehicle, which leads to negative thinking, anxiety and stress. Stress, acting through the endocrine and autonomic nervous systems primarily, then affects the body organs. Subsequently, full-fledged somatic damage results. As Dr. Muhl reported in his classic study: "No sooner is one disease treated than another becomes apparent, because the root cause in the mind has not been treated." But when a synergetic combination of meditation and medicine is applied, they result in more than the sum of their individual effects, bringing permanent benefit on every level.

Where the disease has not yet caused organic damage, meditation alone can help to eliminate the symptoms and restore health.

Traumatic Injuries

Mr. S, a middle-aged man, met with an accident under an electric train in Bombay. His right upper arm was completely cut-off. To the astonishment of witnesses, when the train had passed he picked up the severed arm himself and held into it while he was being carried off in a stretcher. Even while in the hospital he was completely peaceful. He even comforted his anxious wife, who he could tell was worried about the future of the family. "Although my right hand is cut off," he told her, "my left hand has enough power to enable me to work and feed my family."

When asked how he could face such a terrible shock so easily, he said: "My first thought after the accident was, 'I am very lucky that I wasn't killed, but only lost an arm'. I realized that though a useful part of my physical vehicle was lost, still, I, the master of the body, the soul, was healthy and unaffected. I had taken a course in meditation and spiritual knowledge, which led me to these insights at that time."

Purely Organic Diseases

Lastly, I want to tell you about my own experience with a major illness to illustrate how positive thoughts can help us handle physical suffering. About two and half years back, I began to suffer from frequent vomiting and headaches. Despite the efforts of many medical experts from both Delhi and Bombay, no diagnosis could be made. Not even a CAT-scan revealed anything positive.

This went on for almost two months, when at last my physician, decided to experiment with antituberculosis drugs, which led to some improvement after one more month.

During all this time, I was able to remain undisturbed and peaceful in the midst of the attacks. My doctor friends used to tell me, "Dr. Patel, from your face it is difficult to say that you are undergoing care." I recovered from what proved to be a case of tubercular meningitis quite early than usual. By engaging my mind in pure thoughts, I was able to enjoy unbroken tranquility during the whole affair. Thus I know first-hand the efficacy of Raja Yoga in responding to the onset of disease.

In sum, Raja Yoga benefits the patients with psychological and psychosomatic diseases. The objective in describing the treatment value of Raja Yoga Meditation is not to replace the conventional medicine but to use meditation as an adjunct to the conventional medicine. When meditation is combined with medicine, the efficacy of the therapy definitely improves. Meditation directly does not help to overcome purely organic diseases or traumatic injuries yet it is of great value to overcome the pain and suffering that usually follow such diseases.

In a Nutshell

1. There is much evidence that psychological stress has harmful effects on physical health.
2. Disturbances of collagen synthesis, suppression of immunological defence mechanism and increase in muscle tension are observed during psychological stress. These changes can cause or precipitate rheumatoid arthritis and a host of other illness.
3. The observations of Rabiner and Keschner along with other studies clearly show that psychological stress can induce brain damage.
4. Stress reduces the resistance power of the body to fight against infective organisms. During stress defence mechanisms of the body are reduced due to the increased level of steroid hormones., epinephrine, norepinephrine, uric acid, free fatty acid and cholesterol.
5. Apparently it seems that various cancers are caused due to the fast multiplication of the cells. In fact, there are other factors which induce the fast multiplication of the cells. Among these factors psychological stress is an important one. Hormonal and Metabolic disturbances which are observed during stress lead to derailment of compensation and the derailment of adaptation. Such disturbances increase the multiplication of the cells in a susceptible organ.
6. Every stressful event takes away some of the reserve capacity of the body. Only when the normal four to eight fold reserve of an organ is exhausted does one experience the symptoms of the disease.
7. Stress reduces memory power, intellectual efficiency and even brings premature old age.
8. Raja Yoga helps us in several ways to lead a tranquil life without stress and tension.

THE SOUL IS THE DRIVER
WITHIN THE VEHICLE
THE BODY

Mind, Soul and Brain

WHY IS MIND? NO MATTER.
WHY IS MATTER? NEVER MIND.



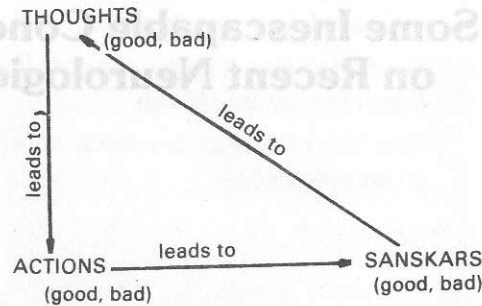
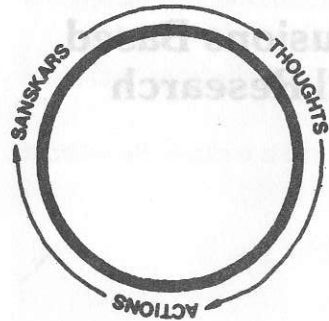
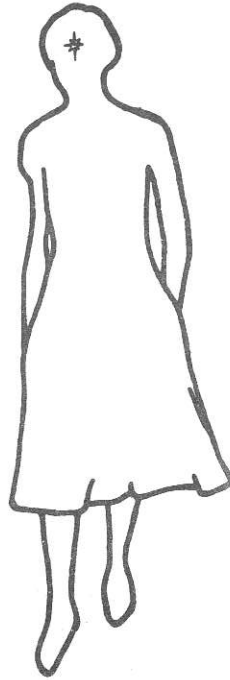
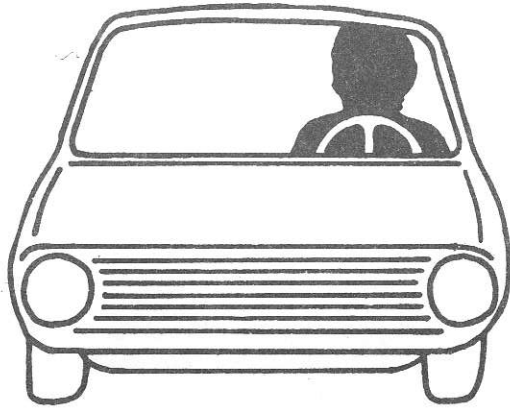
CHAPTER—2

Mind, Soul and Brain

Some Inescapable Conclusions Based on Recent Neurological Research

...believed that the locus of the mind was in the heart, rather than the brain. Today, in this era of heart transplantation and detailed molecular knowledge, we realize that the emotional "heart" really flows through the brain. But though we have localized the organ of

THE SOUL IS THE DRIVER
WITHIN THE VEHICLE,
THE BODY



Mind, Soul and Brain

WHAT IS MIND? NO MATTER.

WHAT IS MATTER? NEVER MIND.

The above statements are both amusing and true, at least in one sense: mind and matter are two components of reality, they are not reducible to one. This fact is of relevance to both science and spirituality, increasingly so as the boundaries of one begin to merge into the other.

The relationship of mind to brain has occupied philosophers for centuries. In more recent times, *neuro-psychologists* have added their studies to the mountain of literature surrounding this issue. Popular books now abound as well, although some have drawn mis-leading conclusions. I hope to aid the intelligent reader to cut through the myths and reach the true understanding of the nature of the mind and soul, for then we shall be able to harness that most powerful engine of creativity for the benefit of humanity and re-establish a more balanced, loveful and happy world.

There are individuals to whom the question of the existence of the soul is no question at all, simply because they already experience themselves naturally as souls, the masters of the bodies they inhabit. There are other who may believe in the soul, but feel that its reality cannot be either proven or disproven through the methods of science.

It is my own position that one must have a clear idea of what the soul is, where in the body it resides, and how it operates, before one can master the powers which are latent in it, or even perceive the subtle phenomena of heightened consciousness which lead one easily across the threshold of self-realization. Moreover, we can understand many things about the mind and soul only with scientific methods. What follows is an attempt to lay out the parameters of that understanding.

Science is the great antidote to superstition. Although it has its own limitations and tendencies to rigidity, many false beliefs can be overthrown most easily through experimental methods. For example, many people once believed that the locus of the mind was in the heart, rather than in the brain. Today, in this era of heart transplantation and detailed cardio-vascular knowledge, we realize that the emotional "heart" really operates through the brain. But though we have localized the organ of

mental function, that by no means settles the question of the role which that organ plays in regard to consciousness.

Just as some psychologists of yesterday studied mental operations without consideration of organic correlatives, today there are scientists who deny the reality or the importance of consciousness, devoting their entire attention to the mechanisms of the brain. Such one-sided efforts have prevented a true perspective of the brain and mind relationship from developing. Only in recent years has a more holistic approach emerged. Let us begin our examination from the neuro-logical perspective.

2.2 INTEGRATION OF NERVOUS PATHWAYS

While I was thinking over the best way of organizing the material of this chapter, someone rang my doorbell. I observed my consciousness withdraw from its state of concentration, move briefly through a feeling state of curiosity and physical activity orientation. When I opened the door, I recognised an old and dear friend whom I had not seen for three years. The feeling state turned to one of joy. I forgot completely about neuro-logical research and images of our long friendship mingled with thoughts of offering hospitality.

Now, what sort of psychoneurological process went on within my head during those few moments? Objectively, we might note that first my *auditory system* was activated by the doorbell. My *motor system* was triggered to open the door. Finally, my *visual system* registered the identity of my visitor. This input then caused a change of focus of the mind for a prolonged period.

These processes themselves are fairly easy to understand. We know which region of the brain is involved with each. But, clearly these events were not an automatic chain reaction. (For example, I might have chosen to ignore the doorbell and go on writing; or to cut short my friend's visit to get back to work). The question then is: where and how did the integration of all these sensory motor processes take place? Even today, after decades of research, neurologists are unable to answer this question fully. In the early years of the twentieth century, neurological research began to demarcate specific nervous pathways which seemed to control the various systems (for example, general sensory pathway, auditory pathway, visual pathway, general motor pathway and so on). But, the neurologists were unable to explain how the operation of these pathways

was integrated even in the simplest activities. Recently, scientists have discovered a new type of pathway, called the 'nonspecific' pathways. They play a significant role as integrators of the other systems.

A View of the Visual Pathway

The swift current of visual information flows through the *optic nerve* from the eye and eventually meets the optic nerve from the other eye. At this point some crossing-over of nerve fibres occurs. Then the nerve enters the brain from either side of the brain stem, connecting with the relay in the *lateral geniculate body*. From here, optic radiations carry the impulse to the *occipital cortex* (Fig. 4).

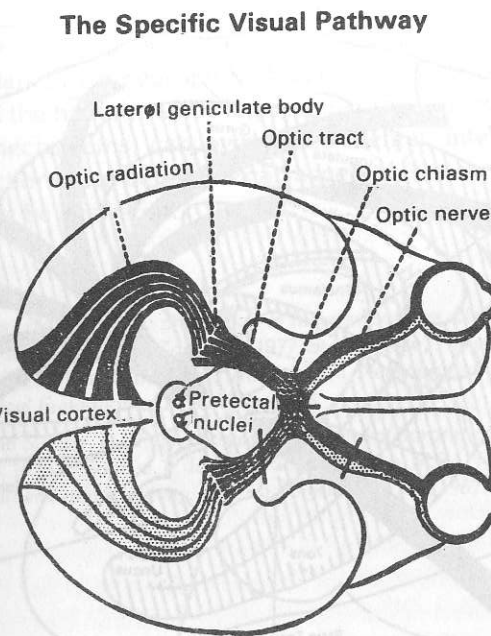


Figure 4

Beyond the visual cortex, the information goes to the central region of the brain via descending reticular activating system.

For a long time it was thought that the occipital cortex is the final site of visual perception. Then in 1970, the two landmark experiments of (i) Hubel and Wiesel and (ii) Horace Barlow and his colleagues, the results of which definitely imply that not even in the occipital cortex is the information gathered and formed into anything like a picture. A large gap still exists in accounting for the conscious perception of visual events.

The visual pathway (and similarly the other pathways as well) has now been traced further into the *reticular activating systems* by recording secondary evoke potentials. Here the impulse enters a nonspecific system (called a Descending Reticular Activating System) as it descends towards the central region of the brain (Fig. 5).

Soul and Brain Relationship

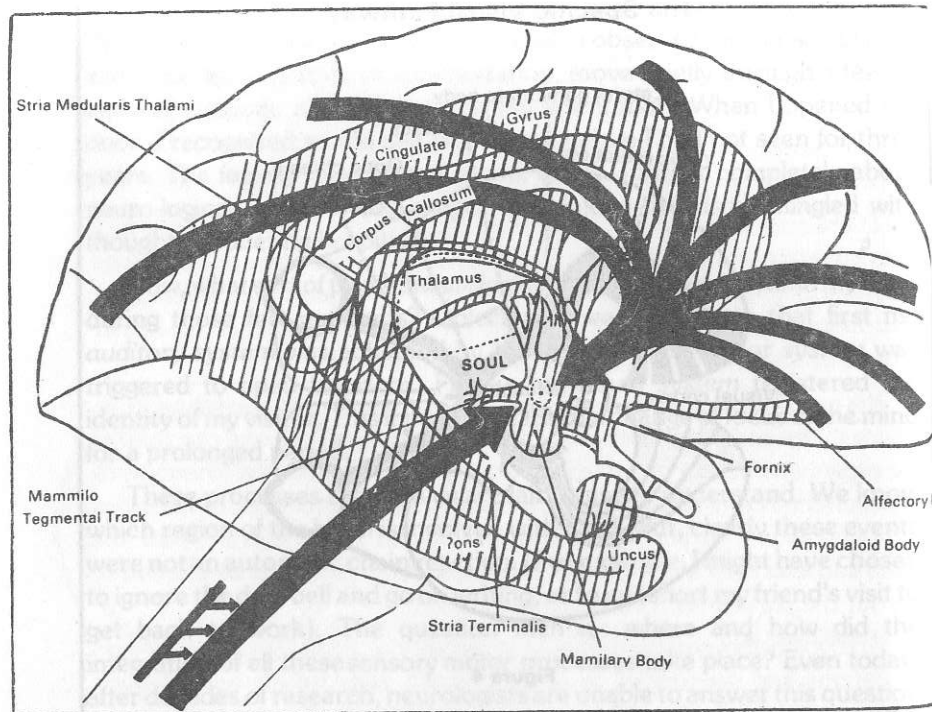


Figure 5.

The brain mechanisms integrate through reticular activating systems (marked by the arrows). Soul, the master of whole body acts from this integrating locus. (See cover page)

As the specific sensory pathways ascend, they contribute fibers to the reticular formation of the *brain stem*. This formation ascends into the central region of the brain, and is thus called the *Ascending Reticular Activating System* (Fig. 5). Both of these systems unite at the upper central region of the hypothalamus.

It is at this location that the integration of all sensory and motor pathways takes place* Nevertheless this location cannot ultimately be the answer to the question of where the will (the decision to integrate the systems in particular manner) originates. This element of the intellect, volition, seems essentially of a higher order than can be accommodated by any such mechanism, as we shall show further on.

2.3 IS MIND MATERIAL OR NON-MATERIAL ?

If we take for true the hypothesis that mind is reducible to material terms, then the evidence from neurophysiology indicates that the *limbic system* in general and the hypothalamus in particular (Fig. 6), by integrating the other brain mechanisms, can oversee all mental, intellectual and behavioural functions. But before we can accept this, a series of important questions must be answered.

*For more details concerning the physiology of these structures, please see: John Boddy, *Brain Systems and Psychological Concepts*, 1977; Steven Rose, *The conscious Brain*, 1976; C.R. Evans and T.B. Mulholland, eds., *Attention in Neurophysiology*, 1978; and P.D. MacLean, *Biological Fundation of Psychiatry*, 1978.

Gebber, G.L., and Synder, D.W., *Hypothalamic Control of baroreceptor reflexes*. *Amer J. Physiol.*, 218:124, 1970. Ninomiya, I., Judy, W.V.; and Wilson, M.F.: *Hypothalamic Stimulus effects on sympathetic nerve activity*. *Amer J. Physiol.*, 30:114, 1967.

The Limbic System

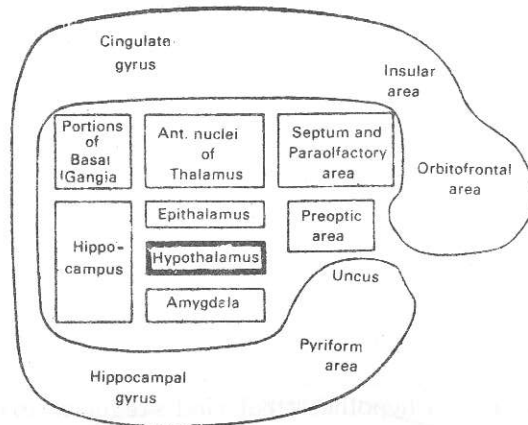


Figure 6.

Schematic representation of the limbic system related to behavioural functions.

Physiology and Emotion

Our emotions are considered to be governed by the limbic system, particularly the hypothalamus. But, do the emotions really originate in this structure? The first question which must be answered is: "If so, why is the horse so much less emotional than man?" For both limbic system and hypothalamus are identical in horse and man. If we seek the solution in the fact that the *neocortex* is not much developed in the horse, we must face the reply that neurological experiments have shown that *neocortex* is not related to emotions at all. Another answer might be that the horse's genetic system is different from man's and that this difference is at the root of the disparity in emotional functioning of the two species. Here the study by Dr. Robert Sinsheimer president of the American Biophysical Society, becomes of interest. He speculates on the limits to thought of interest. He speculates on the limits to thought inherent in the structure of the brain and tries to discover in what ways it might be extended by genetic modification. But he concludes that there is amazingly little chemical difference between human genes and monkey genes: he estimates a 4% overall difference. Clearly the thinking power and emotional range distinction between man and monkey is many times more than the 4%

genetic difference. The same argument will of course apply to that between man and horse. Thus any explanation based on genes is untenable.

Damaged Brain, Undamaged Mind

In 1943, while the armies of Hitler and Stalin were locked in the bloodiest campaigns of the Second World War, among those gravely wounded was a brave and bright young officer of the Red Army by name of Lev Zassetsky. He had a part of his head shot away, on the left towards the back. His vision was affected and he lost his ability to read and write. After some time, though, he learned to write again. Leading the quiet life of a war pensioner, he has written a manuscript of 3,000 pages of eloquent autobiography.

Lev Zassetsky was one of many who suffered damage to the brain but subsequently improved. From the study of many such cases, it is clear that the simplistic notion that brain mechanisms alone are responsible for our powers of thinking, remembering, creating, learning, and reasoning, cannot account for the documented facts. If a specific system were truly responsible for thinking, then damage to that system should lead to diminished performance of the thinking process. In practice this does not occur. Neurologists have concluded from this that a brain has surprisingly great ability to withstand damage, recuperate, and to improvise methods of functions when normal powers have been lost.

How is it that we can regain abilities lost due to brain damage? It is generally theorized that there is overlapping of functional ability by different parts of the brain. But the work of the famous American experimenter Karl Lashley, demonstrates that a greater deal more than simple overlapping is involved. Lashley attacked the brains of living animals, cutting connections, carving out large portions of the brain, and he discovered that the animals were still able to regain their previous powers. For example, he taught rats to perform a task depending on sight, and then deleted ever larger portions from the region of the brain concerned with vision. He found that as long as he left a very small portion (any portion) of this visual cortex intact, the animals could still carry out the same tasks and even learn new ones as well. The clearest interpretation of these results is that learning occurs almost anywhere and everywhere. But how is it that the ability to remember and learn can reappear so easily?

Many researchers believe that the answer can be found in the reticular

formation. In this connection, an interesting study has been produced by Edward C. Eeck, Robert E. Dustman and Mokoto Sakai. They made electrolytic lesions stereotaxically in the reticular formation of the medial mesencephalon and the very important medial thalamic nucleus. Seven animals survived this rather drastic surgery sufficiently for behavioural and EEG evaluation. It was found that conditioned response could be re-established despite the presence of large debilitating lesions in the reticular formation. When the central medial and dorsal medial nuclei of the thalamus approached total destruction, the animal suffered initially a profound cataleptic stupor, but slowly the conditioned responses returned to high level. The animal could stand, walk slowly, eat well and react promptly by turning to the appropriate side when touched.

Many other researchers have reported similar results. Adamez, comparing cats having large bilateral reticular lesions done in one stage with cats having equally large lesions done in two or more stages, reported that with the multiple-stage lesions the animals were alert within a short time. Sleep-wake cycles were normal, walking and unaided eating behaviour appeared rapidly, despite nearly total destruction of the brain stem reticular formation. Chow showed that conditioned cortical potentials (i.e. repetitive electrocortical responses resulting from pairing a tone with a flickering light) could be elicited even after lesions in the rostral, midline and anterior *thalamus*, as well as complete destruction of the *midbrain reticular formation*.

It has been demonstrated lately by Bignall that subcortical structures such as the *mesencephalic* reticular formation, central, median and midline thalamic nuclei currently thought to mediate polysensory cortical responses may be completely removed and yet the polysensory cortical evoked responses will recover and interact in a manner comparable to that observed prior to ablation.

All these recent studies greatly challenge the belief that the reticular formation, thalamic nuclei and *hypothalamic nuclei* are the sole neurological structures related with consciousness, attention and behavioural changes. They have proven to be more of a messenger than a master. It is similar to the situation in a factory where certain workers have gone on strike. The boss can make use of the remaining workers to perform the jobs which the strikers were doing, though it will definitely take some time, and the job may not be done in quite so refined manner. The same thing occurs in the brain. We can remove almost any part of the brain in a particular system. So long as there is even a small portion left, the boss,

the soul, in this case, can make use of that portion to perform the necessary function within some days with some reduction in the quality of function. If a whole system is removed leaving no traces, there may be the loss of the function of the particular system. This is because, using again the example of the factory, it may be very difficult for the boss to shift the workers from one skilled department to the work of another skilled department. In sum, what is distinctly suggested by all these studies is that all brain systems including reticular formation, brain stem, thalamus and hypothalamus are messengers or servants of an independent entity. The master who employs them is different from the material mechanisms of the brain which are employed.

The Swing of the Pendulum

From the middle of the nineteenth century, scientists have been searching for evidence to support the theory that mind is simply a product of matter. The idea was to explain the different properties of consciousness solely in terms of brain process. Until the middle of the twentieth century, this predisposition ruled the scientific establishment. Then the realization that unfillable gaps existed in the theory began to cause the pendulum of expert opinion to swing the other way.

In recent years, as finer and finer techniques have developed to study brain processes, neurologists who were previously on record as accepting completely the old dogma, began publicly to re-consider their findings. Today, it is generally acknowledged that, at the very least, the intellectual and creative capacities of man cannot be explained completely on the basis of brain mechanisms. The renowned Canadian neurosurgeon, Wilder Penfield, has concluded after thirty years of research that "It will always be quite impossible to explain the mind on the basis of neuronal action with the brain..... the mind must be viewed as a basic element in itself....." (Penfield, *The Mystery Of The Mind*, 1976.) Roger Sperry, another highly regarded brain researcher who recently won the Nobel Prize, has similarly said that consciousness is clearly something more than the sum of the physical events occurring in the brain.

The well known investigative reporter, Nigel Calder, visited the leading brain research centres in eight countries to collect the most current research on the brain, consciousness, and human nature. These he systematically analysed in a volume entitled *The Mind Of Man*. Calder's aim was not to discuss philosophy of mind but simply to make sense of the

findings which the scientific world had reported, and to discover what conclusions could reasonably be drawn. In the chapter on 'Human Powers', he asks: "If we cannot even define the mental process involved in high creative work, what hope is there of nailing them down to particular systems of the brain?" Regarding the regions of the cortex involved with language, he writes insightfully that "pointing to areas of the brain especially involved in the use of language is no more an explanation of how they work than is a plan of the United Nations building an explanation of international politics."

Perhaps the most significant opinion originates with J.C. Eccles, famous neuroscientist, and Nobel Prize winner (for medicine in 1969). He systematically presented evidences to show that brain mechanisms are insufficient to explain the mental phenomena in his three books, viz; Facing Reality, 'Understanding Brain,' and 'Self and its Brain.' He Claims the conscious-Self to be non-material in nature. In the book, 'Facing Reality', he expressed: I have now presented a Scientific-philosophical basis on which to develop what I believe to be the only tenable position with respect to the brain and the soul. I submit that the Aristotelian-Thomist view that "the soul is the form of the body" is no longer tenable..... The component of our existence is non-material in nature.

Mind Over Matter

The Faraday cage is a cube constructed of fine copper mesh, which is electrically charged. This sort of special arrangement prevents all forms of material radiations (electrical, light, sound, etc.) from entering inside the cube. An expert in the telepathy sits on an insulated pad inside the cage and tries to receive messages from a far distance. Now if the brain (rather than the soul) is the ultimate organ of perception, the subject should not be able to catch any message because no material radiation enters the cage. Instead, in practice with all outside electrical 'noise' blanketed by the cage, the subject's performances are notably enhanced. Even for the brain scientists, how the detection of the message takes place is a complete mystery (MacDonald 1978). This experiment implies that the non-material power which exists in us receives the message and a non-material medium of communication is also present.

One more piece of information was received during psychophysiological experiments conducted on Raja Yogis. The experiments are described at length in the third chapter. The relevant finding, which is

important here is that the Delta rhythm was observed in many Raja Yogis. This type of brain waves is also seen in animals when the connections of the cerebral cortex are cut from the central region of the brain while keeping the animal alive. Due to this cutting the cerebral cortex is not being driven away by the central region of the brain and thus produces its inherent Delta rhythm. Therefore, it is clear that Raja Yogis who were completely conscious and normal, must be voluntarily preventing the cerebral cortex from being driven by the central region of the brain. To some extent this also indicates that the mind is a conscient energy which controls or modifies the brain's electrical activity. By the way, it is important to note that only a powerful mind can control or modify the brain's electrical activity.

Microelectrodes in Brain

For a quite long time it was believed that the motor strip of the cerebral cortex is the executive region of the brain, giving the orders for action (Fig. 7).

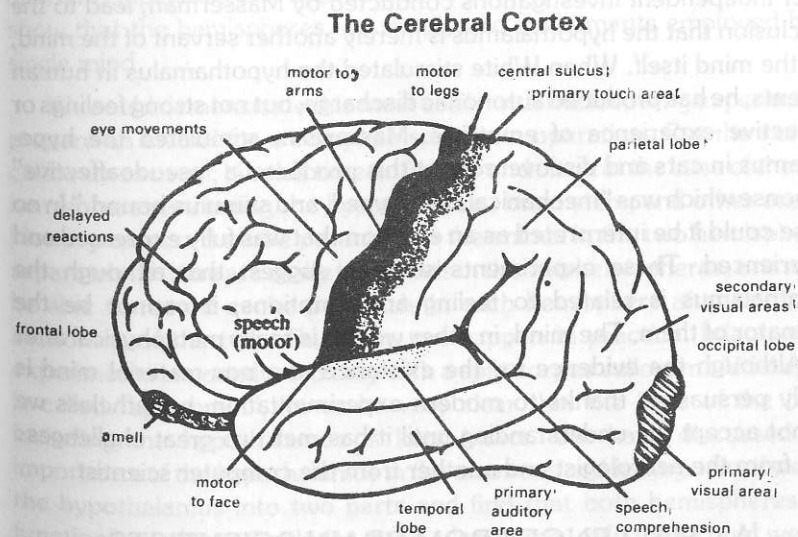


Figure 7.

Human cerebral cortex seen from the left side. The primary sensory areas are stippled and the motor cortex is black.

When a patient is conscious during brain operations, the surgeon can electrically stimulate the motor strip and produce distinct movements in such areas as the feet, hands, jaws, etc. Penfield and his colleagues in Montreal have conducted many such experiments by implanting micro-electrodes in the brain. One thing soon became clear: none of the patients stimulated in this manner had the feeling that he was making the movement of his own will; on the contrary, all were rather surprised at this body movement. One patient, whose efforts were reported by Jose Delgado tried unsuccessfully to prevent a hand-clenching movement produced by brain stimulation and remarked, "I guess, doctor, that your electricity is stronger than my will." In other words, though the motor strip is certainly the region which carries the orders of the will regarding voluntary movements, it is clearly not a centre of will in itself. The administrative decision to move a limb does not originate there. Now the question arises: where does that decision originate?

As we have seen earlier, researchers have sought to localize the seat of consciousness in the limbic system generally, pinpointing the hypothalamus as the particular region connected with our feelings and emotions. But the landmark experiments performed by White, along with other independent investigations conducted by Masserman, lead to the conclusion that the hypothalamus is merely another servant of the mind, not the mind itself. When White stimulated the hypothalamus in human patients, he has produced autonomic discharge, but not strong feelings or subjective experience of emotions. Masserman stimulated the hypothalamus in cats and discovered that this produced a "pseudoaffective" response which was "mechanical, stereotyped, and stimulus-bound." In no sense could it be interpreted as an emotion that was fully expressed and experienced. These experiments strongly suggest that although the hypothalamus is related to feeling and emotions, it cannot be the originator of them. The mind, in other words, is really metaphysical after all. Although the evidence for the existence of a non-material mind is highly persuasive, thanks to modern experimentation, nonetheless we cannot accept the understanding until it has met two great challenges: One from the neurologist and another from the computer scientist.

2.4 A CHALLENGE FROM BRAIN SCIENTISTS

A housewife in her mid-thirties sits in a laboratory at the California Institute of Technology. In front of her is a screen with several faces.

She has been asked to gaze at a spot marked in the middle of it. A strange picture is observed by the woman. It is a split face made up of two halves joined in the middle. On the right, as seen by the housewife, is a child, while on the left is a woman wearing spectacles.

Like the face on the screen, the housewife's brain has been split down the middle. She underwent an operation for severe epilepsy in which the surgeon cut the great bundle of nerve fibres (the *corpus callosum*) which normally connects the two sides of the roof of the brain. In such cases, some scientists assume the presence of two minds and two halves of the brain. According to them, the brain mechanisms in the two hemispheres are the sole mechanisms for perception. The following observations are significant in this connection.

Left Brain and Right Brain ... One Mind or Two?

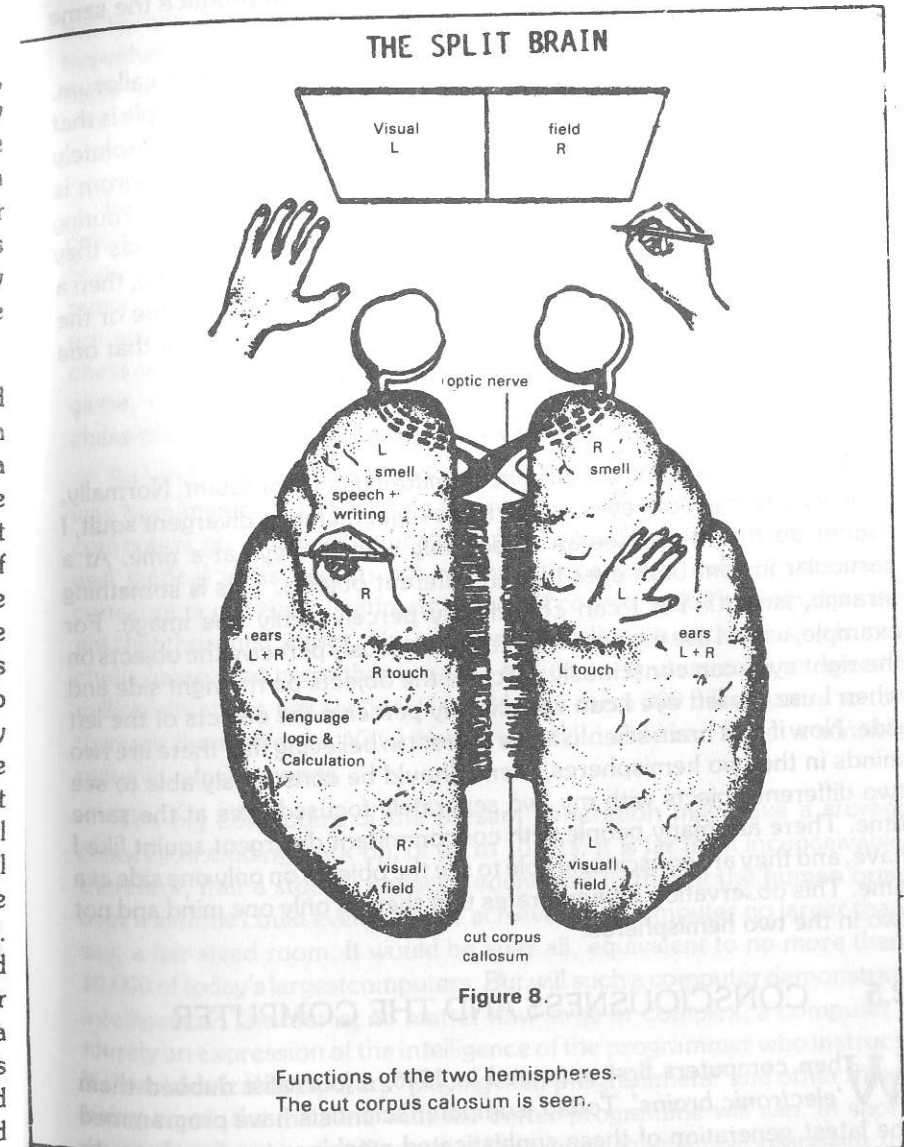
A great deal has been written lately about the relationship of the right and left *hemispheres* of the brain. According to some of the writers, two minds exist, one in each hemisphere. Each mind is said to possess different capacities and approaches to reality. But careful analysis will show that the hemispheres are simply two instruments employed by a single mind.

We could demonstrate this most easily with the following experiment: prepare an animal for a complete split brain operation. Cut the corpus callosum as usual, but this time go further and also cut the base of the two hemispheres (including the hypothalamus, brain stem, and other areas). Now try to record evoke potentials in the animal in the two hemispheres separately. If there are really two minds in the two hemispheres, one must be able to record evoke potentials in each hemisphere after complete sectioning of the two. This does not happen in practice. In fact, most experiments are conducted only with a split corpus callosum. Although it is called "split brain", let us be very clear that the base of the brain including the hypothalamus is kept intact. We have discussed the importance of the hypothalamus in the emotions and feelings. So, if we cut the hypothalamus into two parts and find that both hemispheres are functioning independently for quite a long time, only then could we say that there are two minds which are material in nature.

One Mind, Split Vision

A 14-year old boy with congenital absence of the corpus callosum, who scored within the normal range of intelligence, was studied by Solorsh. This patient's I.Q. was 107, verbal 95 and performance 115. He was given a variety of tests employing each hand separately or using both hands together. He was tested for the transfer of training to one hand after the opportunity to practice the task only with the other. Generally he was able to identify objects and respond well using either hand, but difficulty was experienced in the integration of information across the midline of the body.

The patient's performance on auditory tasks was perfectly normal and he could perform commands with either arm to verbal instructions. With regard to visual perception, a split face of two persons was seen when a number of faces were shown together. The subject was also tested for the transfer of learned information. As with normal people, information learnt through one eye was available when tested with the other eyes. A series of five paired associate nonsense syllables were presented to the right eye from the right side and learned by the standard anticipation method. The patient was instructed to write them down with the left hand. The series was then transferred to the left eye, and the patient was still able to perform the learned task perfectly well. Thus in this child, the only abnormal thing was the observation of double half faces. I think objective observers would agree that this alone need not lead us to conclude that there are two minds; for this abnormality can be explained in neurological terms simply by assuming there is but one mind with its locus in the central region of the brain at the level of the hypothalamus. It is clear that one consciousness is observing both halves of the split face. As shown in Fig. 8, each hemisphere received information about half the figure, and because of the absence of the corpus callosum there was not the transfer of electrical activity between the two hemispheres which occurs in a normal person. Only because of this, the mind receives, half of its information from one hemisphere and another half from the second hemisphere. The mind perceives according to the information received from its brain mechanism. Therefore, when the mind receives different information from the two hemispheres because of lack of such information transfer, it has no choice but to accept and try to integrate both the figures as received by it. Thus there need not be two minds in the two hemispheres to see a split figure. One mind in the central region of the



brain at the level of the hypothalamus is sufficient to produce the same effect.

As stated above, some people are born without a corpus callosum. The most significant observation to be made regarding such people is that their learning capacity, memory, and other mental abilities are absolutely normal. Such cases are discovered only when an *airencephalogram* is done for other diagnostic purposes. Many cases are only recognized during the postmortem. This clearly suggests that if there are two minds they must manifest separately. Moreover, if two minds are both active, then a third must be postulated to decide when it is appropriate for one or the other to be dominant. It makes much more sense to conclude that one mind is making use of two data processors (the hemispheres).

My Eyes Offer a Solution

Since childhood I have had *concomitant divergent squint*. Normally, people converge both eyes on the same object. Due to divergent squint, I cannot do that. I can see an object only with one eye at a time. At a particular instant both eyes look at different objects. This is something strange, isn't it? Yet I can consciously perceive only one image. For example, when I use my right eye I can consciously perceive the objects on the right side and when I use my left eye I can consciously perceive the objects of the left side. Now if split brain scientists are correct in believing that there are two minds in the two hemispheres, then I should be consciously able to see two different objects with my two separately focused eyes at the same time. There are many people with concomitant divergent squint like I have, and they are consciously able to see the objects on only one side at a time. This observation demonstrates that there is only one mind and not two in the two hemispheres.

2.5 CONSCIOUSNESS AND THE COMPUTER

When computers first appeared in 1940, a journalist dubbed them 'electronic brains'. Today, computer scientists have programmed the latest generation of these sophisticated machines to play chess, to identify physical objects and to perform a wide variety of other intellectual tasks. It has been suggested that the human brain is also a very excellent computer which performs all the intellectual and emotional functions of

the human being. No nonmaterial entity is required, according to this hypothesis: What we term the mind is simply an effect of highly sophisticated programming. But let us examine the situation more closely.

Shortcomings of Computers

First, notice the inherent limitations of a computer's abilities. Suppose computers could play brilliant chess (they may be able to do so one day). Should we then regard them as thinkers? Almost certainly not. The test of human mental qualities involves performing a variety of different tasks, not just one. But a programme designed to enable a computer to play chess would be useless if the machine were invited to take part in a card game, or asked to help a blind man across the road. Yet a human chess-player can do these things very easily.

Second, it must be understood that computers do not 'play' chess the way humans do. We (I assume the reader to be human, since very few computers go in for self-education) play chess by conceiving strategies and tactical ideas; we do not attempt to calculate every conceivable consequence of every legitimate move. Of course, today's computers are not that thorough, either. The number of possible situations arising from a chess game is so great that even if a million computers each reviewed a million situations per second, it would take them 300 billion years to run through them all once. Yet a twelve years old child can select a sensible move in a few seconds.

The big computers of the present generation may have a storage capacity, including back-up, of up to 10 bits. It is far from inconceivable, therefore, that a storage capacity equivalent to that of the human brain over a lifetime could eventually be achieved in a computer no larger than, say, a fair-sized room. It would be after all, equivalent to no more than, 10,000 of today's largest computers. But will such a computer demonstrate intelligence? The fact is, no matter how large or complex, a computer is merely an expression of the intelligence of the programmer who instructs it. Two identical computers "playing their programmers" and other things being equal, the machine with the better programme will win. In short, computers have no intelligence of their own; they simply represent the intellect of their programmer.

The non-conscious, non-creative mode of the computer's operation is a major disappointment to its early promoters, who fantasized it might one day reach far beyond the limits of the human mind. Here is the state of the

art as summed up by Steven Rose, in his book—*The Conscious Brain* :

“Perhaps what is surprising is not that computers have done so well in only three generations, but that they have done so poorly that, despite intensive research efforts, machine translation is still primitive and unsatisfactory, that machine literature—searching is of little value except to the most routine types of chemical and pharmaceutical research, and has scarcely any utility to the creative work of more serious sciences; chess and draughts are the extent of a computer’s capacity. It has not yet been suggested that a computer could learn to play adequate poker. The fact is that while as a calculating machine a computer is a very useful instrument as a brain it is not really above ground level”.

The Question of Pain

Can we make a computer feel pain? This is a fascinating question, because the appearance of real pain in a machine would tend to confirm that we human beings are just fancy soft machines. Every computer scientist will agree that it is not a task which invites solution simply by sophisticated innovations in programming but rather requires the devising of new sorts of hardware. Daniel C. Dennett in his excellent book, *Brainstorms*, tells how he tried to devise this new sort of hardware to make a computer that feels pain. In classical style, he began by engineering the simple action of an outward expression of pain, like taking away one’s hand from a pain side. Next he tried to produce in the computer, symptoms of increased respiration and heart rate. Finally, he tried to make the computer really “feel” pain. After a highly innovative effort involving the most advanced techniques available, however, he admitted failure. “If pain is deemed to be essentially a biological phenomenon bound up with social interactions and interrelations, then the computer scientist attempting to synthesize real pain in a robot is on a fool’s errand”, Dennett concluded. “He can no more succeed than a master cabinetmaker, with the finest tools and materials, can succeed in making, today, a genuine Hepplewhite chair”.

Who is the Programmer ?

Let us suppose that a time will come in the future when we can solve many of the shortcomings of the computer and create a glorified machine as magnificently complex as the brain. Still, the fact would remain that a person would have to programme it. No computer will ever be independent of its programmer. So even (or especially) if we assume that the brain is a

computer, then we cannot deny on that basis the existence of a non-material power in us. When we assume the brain is a computer, we are also accepting the reality that it has to be programmed by such a non-material entity. From the above facts regarding the computer one can easily decide whether the mind be material or non-material.

2.6

ONE MORE EVIDENCE

Dr. Norman Sand, a cardiologist, was injured in an automobile accident and was rushed to the emergency room of a city hospital in Portland Oregon. Around one clock the next morning, following surgery, Dr Sand was declared dead. Meanwhile he travelled out of his body and was in the presence of magnificent light.

Dr. Sand remembers seeing doctors preparing to put his body into a “green plastic bag”, convinced that he was dead beyond reviving when suddenly “spontaneous respiration occurred”. He remained in a coma, but was aware of doctors periodically visiting his room with a “pin stuck through an eraser on a pencil”, which they used to prick him and check for reflexes. He recalled all these events, as the attending doctors confirmed.

Accounts like this are not new. They have been narrated for years. The significant part is a readiness on the part of scientists, physicians and surgeons to listen to them with great interest and to study them as an important data worthy of scientific research. Today, scientists who once regarded these stories as hallucinations and fantasies are becoming increasingly convinced of their authenticity.

Dr. Ian Stevenson, a psychiatrist at the University of Virginia submitted the winning essay about “Evidence for Survival” in 1960 in a competition in honour of William James, the pioneer of psychology. In his essay he neatly turned the tables on most thinking about survival. He later made a very careful analysis of more than sixteen hundred cases of alleged reincarnation. Writing in the prestigious *Journal of Nervous and Mental Disease*, Dr. Stevenson recently concluded, “The evidence of human survival after death is strong enough to permit a belief in survival... certainly there is much evidence suggesting human survival after death”.

Dr. Elisabeth Kubler-Ross and Dr. Raymond Moody have also intensively studied the experiences of people who faced clinical death. Their well known studies include a great deal of unimpeachable evidence of metempsychosis.

Arguments By Sceptics

Dr. Michael Sabom, assistant professor of cardiology at Emory University in Atlanta, Georgia was very sceptical when he first read Dr. Moody's book. But he and a psychiatric social worker then studied more than 120 cases in which patients were near to death. What specifically interested him were out-of-body (OBE) experiences, in which people reported leaving their unconscious bodies to observe from another vantage point, usually from above. After a detailed study of these cases Sabom says, "I found that some of the patients could tell me in detail, in the correct sequence, exactly what had happened to their bodies on the operating table. One man described how he floated above his body and watched the operating team at work. He described the instruments, how the heart looked, and the operation procedure itself. I was amazed there was nothing in his background to indicate that he could have picked up this medical knowledge otherwise. In another case, a man's heart had stopped beating for four to five minutes, and he described exactly what went on during that time. To me, this is the strongest evidence that these were not just hallucinations or fantasies. There is something going on here, and it can't be explained in traditional ways".

Many sceptics still believe that if these are not hallucination and unconscious fantasies they are induced by drugs, religious beliefs, or due to brain anoxia.

Professor Kenneth Ring, a psychologist of the University of Connecticut, set out to find an entirely new randomly selected group of people who had come close to death and to collect and scientifically verifiable information about them.

During his research, he found that his subjects, who came from a wide range of age, education, background and temperament, had similar OBE experiences. And many of them did not believe in religion at all.

Throughout the possibility of these stories being induced by drugs or anaesthesia was eliminated. Many subjects has taken no drugs at all. Ring believes that in other cases anaesthesia and medications used were highly unlikely to have caused such reactions. In fact drugs and anaesthetics may cause a person to forget a near death experience, rather than to have one.

Dr. Fred Schoonmaker, Director of Cardiovascular services at St. Luke's Hospital in Denver, Colorado had studied 2,300 patients who came close to death. He used sophisticated equipments to monitor patients' vital signs. Records show that there was no lack of oxygen supply to the

brain. In a number of cases the brain waves recorded were flat or non-existent, for periods ranging from 30 minutes to three hours. This proves beyond a shadow of a doubt that the experience cannot be due to anoxia or abnormal electrical activity in the brain.

These scientists are at last coming around to recognizing the reality of the soul, so let us now explore that reality.

2.7 HOLISTIC HEALTH BEGINS WITH HEALTHY SOUL

In recent years more and more doctors are being interested in the notion that patients have a mind as well as a body; a diagnosis and treatment in physical terms alone will suffice no longer. Emotional and environmental influences are being seriously taken into account. Expressions such as the Doctor-Patient relationship, Psychosomatic Disease, Whole-Person Medicine, etc. are phrases presently as meaningful as that subsumed by the blanket term 'Psychiatry'.

Advancement in Medical Science has many advantages of eradicating a number of diseases, making the illness short and less painful, in inventing new equipment for diagnosis and treatment etc. But unfortunately we have started looking at the patient as a machine instead of a living person with emotional needs. The present health care system has become illness-centred rather than patient-centred. Luckily the holistic approach developed in Physics, Ecology and Economics is also transforming the approach of medicine through the holistic health movement which was born in California (U.S.A.) and continues to blossom and spread throughout the world. Fritj of Capra (1975) has insight fully described the holistic approach in physics. As we study the various models of subatomic physics, we observe that they express again and again, in different ways, the same insight that the constituents of matter and the basic phenomena involving them are all interconnected, interrelated and interdependent, that they cannot be understood as isolated entities. But only as integrated parts of the whole. Einstein, A (1923), Heisenberg (1958), Chardin (1965), Stapp (1971), Bohm (1975) and many other scientists have supported the holistic approach. In the book : The Principles of Relativity, Albert Einstein described: the views of space and time which I wish to lay before you have sprung from the soil of experimental physics, and therein lies their strength. They are radical. Henceforth space by itself and time by itself are

doomed to fade away into mere shadows and only a kind of union of the two will preserve an independent reality.

The late Dr. Michel Balient, an internationally renowned psychoanalyst, has immensely contributed to holistic health. In his world-famous book 'The Doctor, His Patient and the illness' (1957) he wrote : The discussion quickly revealed, certainly not for the first time in the history of medicine, that by far the most frequently used drug in medical practice was the doctor himself. It was not only the bottle of medicine or the box of pills that mattered, but the way the doctor gave them to the patient-in fact the whole atmosphere in which the drug was given and taken'.

Very early in his work Balient spoke about the need for a more comprehensive and deeper diagnosis of each patient than is normally thought to be necessary. He gave importance to study the patients's mind along with the body i.e. to examine the whole person in order to form an overall diagnosis. Balient also emphasised improving the doctor/patient relationship and to understand the patient as a whole. The Holistic Health movement laid the landmark in connecting the physical, mental, social and spiritual well being of a person. Much research is being done to discover various subtle energies and auras.

Meditation contributes to the theory as well as the practice of holistic health. The theory of Raja Yoga meditation points out the root of holistic health which is in the conscient, sentimental and spiritual entity, the Soul. The Soul, by integrating various brain mechanisms, controls the activities of the whole body. Interestingly the latest researches in Neurophysiology also support this theory. (as discussed earlier).

For holistic health, the most important step is to make the soul healthy and peaceful. The following steps are basically needed to make the soul healthy.

TRUE AWARENESS : As already discussed, the awareness of being a body is in fact a false awareness. Therefore, craving for temporary bodily pleasure creates a vicious circle resulting in more and more sorrow, peacelessness and emotional disturbance. Re-establishing the true awareness of being a conscient point of divine light and might between the eyebrows is a positive step towards a healthy soul.

ORIGINAL QUALITIES : Originally the soul is a peaceful, loving, blissful, pure and powerful being. Understanding these original qualities, the conscious self makes one happy and harmonious.

POSITIVE THOUGHTS : Affirmative and positive thoughts for regaining soul-consciousness help one to break the vicious circle resulting from body-consciousness.

POSITIVE ACTION : To make the soul healthy, positive actions are also necessary which erase the negative impressions of the soul and gradually re-establish the positive sanskaras.

MEDITATION : By tuning the mind with the Supreme Soul who is ever peaceful and pure, the soul in turn receives unconditional positive transactions. Therefore, the soul becomes tranquil, harmonious and healthy.

2.8. SOUL : THE NONMATERIAL CELL

Having punctured the faulty arguments which sought to reduce consciousness to an epiphenomenon of neurochemistry, and having adduced evidence that we are indeed conscient, non-material entities, i.e. souls, operating a physical body, it seems appropriate before going on to draw a more precise picture of what the soul really is.

This is both very easy and very difficult. It is easy because you are already a soul, and simply by observing your own mental processes you will discover a great deal about your present nature. This self-observation alone, however, will not reveal the hidden potentials of the self; nor can one attain the necessary amount of distance from one's own mental functioning to observe with accuracy. To do that requires knowledge.

The soul is very small and very subtle. One may best picture it as a point-source of conscient light. The soul being nonmaterial cannot of course be put under a microscope; but if one is attentive, relaxed and open, one can feel the soul emanating vibrations from the central area of the forehead.

The functioning of the soul may be compared to that of an ordinary body cell, at least for purposes of simplified explanation. A cell is composed of three different functional units : the cell body, the cell membrane and the nucleus. Similarly, the soul may be understood to manifest in three distinct modes : mind, intellect, and latencies (sanskaras or personality traits).

Applying this cellular scheme to the soul's functioning, the mind may be compared to the cell body, which digests nutrient material and turns it into protoplasm bringing about growth. In the same way, the mind

produces thoughts, which are the nutrient of the soul. If that thought is elevated and pure, the soul grows; if the thought is debased and vicious, the soul degenerates.

But just as the cell body's activity depends on the type of material which has been allowed in by the cell membrane, in the same way, the intellect acts as a screening and monitoring device, determining which sorts of influences from the environment should be needed and which ignored; which books should be read, for example, which thoughts imbibed. The intellect chooses, in other words, how the soul is to grow.

Finally, the cell's nucleus determines its overall nature through its possession of the genetic material. Its nucleic acid molecules will govern not only its present structure, but also the future generations of cells produced through the cell division. In like manner, the soul's latent tendencies, or *sanskārās*, determine how the individual functions and responds to its environment. Of course, the *sanskārās* are malleable, and the intellect, by causing the mind to produce pure thoughts, can change the 'genetic code' of the *sanskārās*, making it immune, for instance, to the negative pressures of an unhealthy environment. This indeed is one of the benefits of Raja Yoga meditation.

The above analysis, of course, is simply by way of an analogy.

Now it is clear that soul is the master of the whole body. Mind, intellect and personality traits (*sanskārās*) are the faculties of the soul. As all the nervous mechanisms integrate at the upper central region of the hypothalamus, it is suitable for the soul to operate conveniently from this locus. Surface marking of the locus of the soul is done at the centre of the forehead. The understanding of correct spiritual knowledge, practice of meditation and righteous actions will make the soul healthy by putting him in the natural state of complete peace, love, bliss, purity and power.

2.9 A STEP FOR SELF-DEVELOPMENT

With awareness of "I" as a soul, I am now awake to my real position in the world. In this conscious state I realise that it is me that is responsible for controlling my thoughts and disciplining my mind. The mind has been compared to a wild horse, one with such tremendous energy that it races round and round constantly, never stopping. Day and night it races on, even in my dreams it is still racing, and so little wonder that it has become tired. But even then it doesn't know how to calm itself. I

can rest my body by sitting down, but my mind refuses to slow down. It only knows how to go on, not even aware of which direction it should take.

The moment my intellect realizes I am non-physical, not a body but a focus of powerful energy within a body, I am able to use this power. With this awareness I have in my hands the reins with which to tame these wild horses, my thoughts. Once I am conscious of the waves, I can direct their flow; in this way there is none of the wastage that has made me so tired.

I now become very selective. In this position of authority over my own desires. I am able to choose only those thoughts that will lead me to experience permanent happiness and contentment, instead of something that is transitory. In allowing only pure thoughts to pass into action, my impure *sanskārās*, that have caused so much upset, gradually weaken, giving way to pure ones. I even reach a state in which my very thoughts are peaceful and deliberate, instead of tense and anxious.

At first there is some necessity for a deliberate control of the mind, but it leads to a situation where there is complete transformation. So it isn't merely an external force or discipline, but my very nature, my *sanskārās*, are being elevated. There comes a time when there are only pure elevated thoughts that bring me happiness and enable me to give happiness.

With my intellect awake, and each thought being evaluated before mistakes can occur, I am able to achieve actual changes in my life, when before it was impossible.

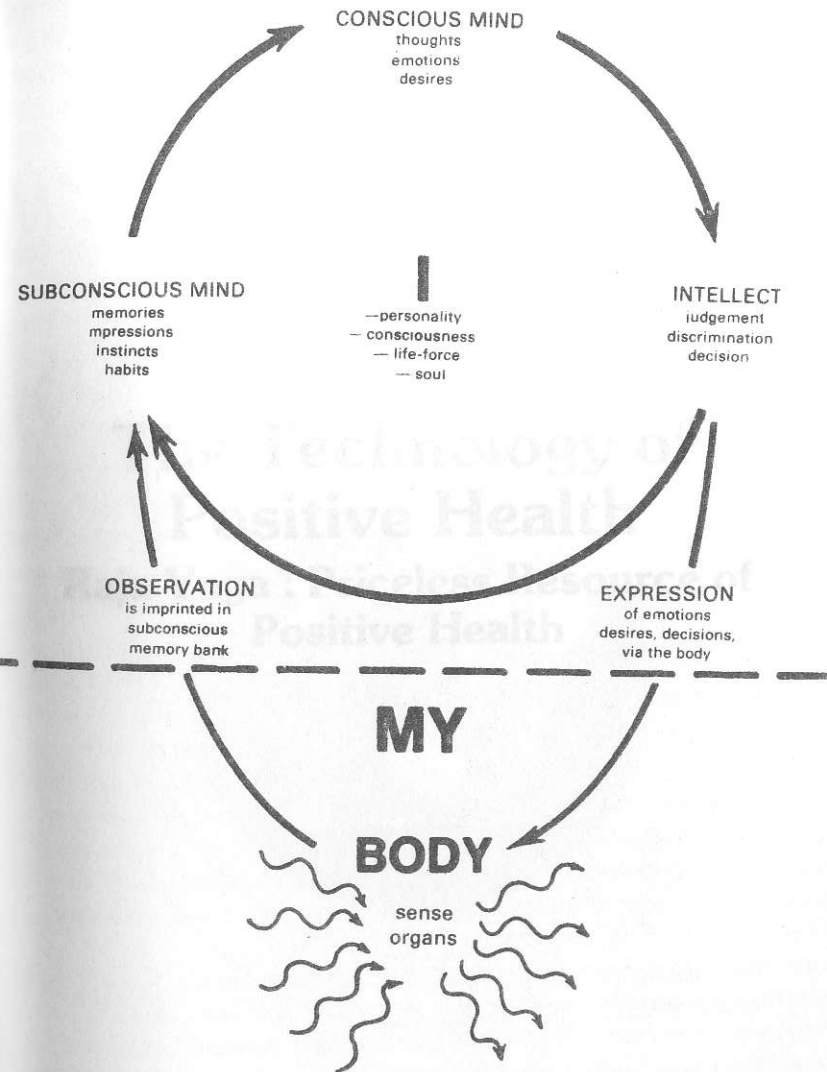


In a Nutshell

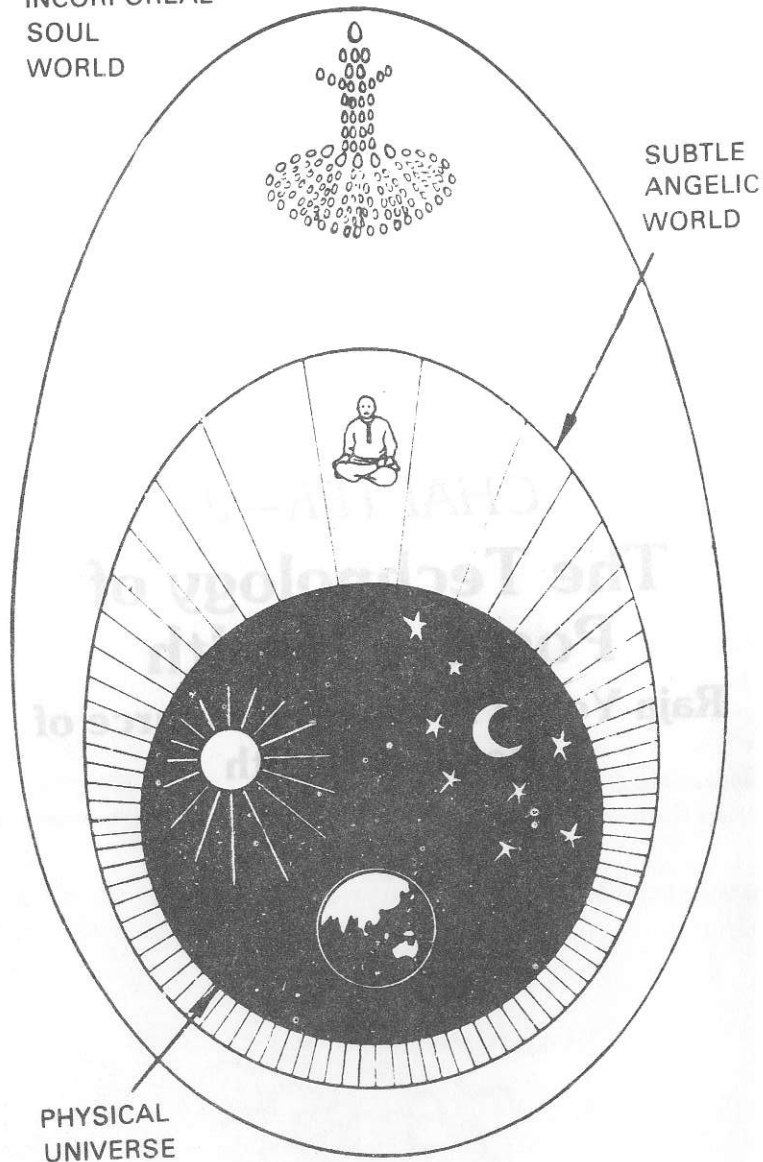
1. I am a soul, a conscient point of non-material light which is eternal and immortal. The realization of this fact removes many neurotic tendencies. Once we understand the correct knowledge of the soul self-realization is very easy.
2. Generally people are unaware of the definition and the dimension of health. Usually health is described in four dimensions, i.e. physical, mental, social and spiritual health. Even on casual self analysis of the attributes of these dimensions, we can see that most of us don't qualify in all four categories. The practice of Raja Yoga is a strong foundation for building the stage of one's health.
3. Observation of Delta Waves, the slowest brain waves, was a unique finding when ten Raja Yogis were examined with E.E.G. More significantly, even when they performed complicated mental exercises Delta Waves did not disappear. These findings assert the technique of Raja Yoga to keep one's mind peaceful, detached and stable.
4. Raja Yoga means the intellectual & loveful communion of the soul with the Supreme Soul. Souls and Supreme soul are conscient points of divine light. Yet the attributes of the Supreme are unlimited whereas those of souls are limited. Initiation, Meditation, Concentration and Realization are the four steps of Raja Yoga. Raja Yoga subsumes within itself the fundamentals of all methods of yoga and confers the achievements of all of them naturally and easily, using one very simple method which anyone can learn.
5. The practice of Raja Yoga is based on deep thinking over the pure and positive understanding of spiritual knowledge.

2.9 A STEP FOR SELF-DEVELOPMENT

With awareness of "I" as a soul, I am now awake to my real position in the world. In this conscious state I realise that it is me that is responsible for controlling my thoughts and disciplining my mind. The mind has been compared to a wild horse, one with such tremendous energy that it races round and round constantly, never stopping. Day or night it races on, even in my dreams it is still racing, and so little wonder that it has become wild. But even then it doesn't know how to calm itself.



INCORPOREAL
SOUL
WORLD



THE THREE WORLDS. A Map of the Universe.

The Technology of Positive Health

We have seen the large role the mind plays in the origin of physical illness; and having further seen that the mind is an entity separate from the brain mechanism, we are ready now to experience the method of applying this information practically to restore and maintain positive health. Let us first look at what we know about the self.

Even in common parlance, when we speak of the 'self', we refer to our consciousness. Now we have evidence that this consciousness that I am is in fact a soul. This gives us a very powerful conceptual instrument by which to understand the mental component of our physical health.

It stands to reason that if I am really a soul—a completely non-physical and immortal being—then upon my full realization of this fact, whatever neurotic tendencies I may have had on the basis of physical fears, such as fear of death, should diminish and eventually disappear.

People generally think of complete self-realization as something attainable only by very few, and then only after many years of hard effort. If this were true, then Raja Yoga would not have much to offer the ordinary man. But on the basis of my own experience, I have seen many cases of dramatic transformation in the physical and mental condition of patients after only a few months of Easy Raja Yoga practice. Of course, those who have studied for many years may attain still higher stages, but the immediate benefits are so great that we need have no hesitancy in prescribing Raja Yoga meditation as therapy for the very old infirm as well as for the young. Here I do not intend to replace the conventional medicine. I am advocating Raja Yoga as an auxiliary means to the conventional medicine so that we can achieve quicker and permanent cure in many diseases. It should also be noted that the cognitive context of Raja-Yoga is so deep and so broad that persons of every background and level of education may find great stimulation in it. In fact, the more generally developed is one's intellect, the further one may go into this extraordinary study and elevation of the self.

3.2

POSITIVE HEALTH

Health is our birthright. It is a treasure which neither science nor wealth can buy, and to get which most people would give up everything. Yet the subject of health was overlooked when the covenant of the League of Nations was drafted after the First World War. Only at the last moment were sections on health added in. Health was again forgotten when the United Nations Charter was drafted at the end of World War II. Belatedly, the matter of world health was introduced during the San Francisco U.N. Conference in 1945.

A reawakening to the importance of health has occurred in the past few decades, a recognition that health is not merely a precious possession but a resource in which the whole human community has a stake. The spread of toxic substances in the environment, the nature and war imposed conditions of mal-nutrition, over-crowding and unhygienic surroundings have increased the strains upon this resource. Moreover, dangerous insects and bacteria have built up immunities to the agricultural chemicals and medicinal drugs on which we have depended for protection. And together with that, the costs of health care have risen dramatically. In short, we are wide open for a medical disaster.

Given this situation, it is imperative that we take another look at this resource we call 'health'. Just as in the field of energy resources, we are seeking alternative to our dependence on oil, in the field of health, we must seek an alternative to traditional concepts of health care. This means we must understand what health really is.

Aside from general agreement that it is something which should be promoted and maintained, there is no universally accepted definition of health. Many experts employ some version of the definition offered by the World Health Organization (WHO), which states: "Health is a state of complete physical, mental, and social well being, and not merely an absence of disease or infirmity". Other authorities add a fourth dimension to the definition, suggesting 'spiritual well being' as essential to the true condition of human health. The attributes of the foregoing dimensions of health are generally described as follows:

Physical Health :

Balanced dietary habits, a sweet breath, and sound sleep.

- B. Regular activity of bowel and bladder, and smooth, coordinated bodily movements.
- C. Resting pulse rate, blood pressure, body weight and exercise tolerance are all within the normal range for the individual's size, age and sex.
- D. All the organs of the body are of unexceptional size, and function normally.

Mental Health :

- A. Happiness, calmness, and cheerful demeanor. Self satisfaction (no self-condemnation or self-pity). No conflicts within the self (no feeling of being 'at war' with oneself).
- B. Accommodative intellect. Able to accept criticism, not easily upset. Understanding of the emotional needs of others, considerate and courteous in all dealings. Open to new ideas.
- C. Self-control. Not dominated by the emotions of fear, anger, attachment, jealousy, guilt, or worry. Not driven by lust or greed. Able to face problems and solve them intelligently.

Social Health :

- A. Forms friendships which are satisfying and lasting.
- B. Keeps family and social relations hearty and frictionless.
- C. Acts for the benefit of the society in accordance with real capacity.

Spiritual Health :

In his textbook on preventive and social medicine, Dr. J.E. Park (1977) describes spiritual health as "something intangible that transcends physiology and psychology". From my experience of Raja Yoga, I feel the following three attributes properly describe, at least minimally, the spiritually healthy person.

- A. Possession of accurate knowledge and continuously experienced awareness of the self as a soul (the non-material point of light in the centre of the forehead). The feeling-state of such a self-realized soul will be peace and purity.
- B. Living without attachment to any object in the physical world,

including one's own body. A sense of brotherhood with other souls, without coming under their influence. One's actions will be elevated and characterized by integrity.

- C. Constant intellectual communion with the Supreme being, by which positive energy is received and transformed into pure action. The soul will be experienced by himself and others as humble, incorporeal, and viceless. No worldly obstacles can affect him.

In this brief outline of the characteristics of total positive health, we can see by even casual self-analysis that most of us today do not qualify in all four categories. There is a shortage of this health resource. Of the four, it is obvious that the spiritual dimension is most important, for it impacts most heavily upon the other three. The spiritually healthy being will have no difficulty in attaining mental and social health, as well as having a distinct advantage in maintaining the well being of his body.

The practice of Raja Yoga, in turn, is the strongest foundation for building the stage of one's spiritual health. The intelligent person will recognise when he is not entirely healthy mentally and socially, let alone spiritually. Common sense will tell him the above list of attributes is proper for a human being (even though he may justify his lack of them by comparing himself to unhealthy peers or society in general today). When he tries to understand why he cannot achieve his own highest goals, however, he generally meets with frustration. For until he has knowledge of the soul—until he grasps completely that it is mis-identification with the physical vehicle which causes lack of the subtler forms of health—the soul cannot rise out of the darkness in which he stumbles. Raja Yoga practice is built upon this priceless knowledge of reality.

3.3 PSYCHOPHYSIOLOGY OF RAJA YOGA

The practical results of Raja Yoga over past several decades have been so significant that western scientists have begun to investigate the cause of personality transformations they have observed in the students of the Brahma Kumaris World Spiritual University.

One of the most recent studies involved a series of psychophysiological experiments made in San Francisco, California (U.S.A.), at the Langley Porter Psychiatric Institute.

Ten members of the Brahma Kumaris Spiritual University had their brain waves measured by electro-encephalography (EEG), and their muscle tension, abdominal and thoracicorespiratory movements, and

lung carbondioxide levels were also measured while formed various mental and physical exercises.

The results have been quite exceptional, although it is perhaps too soon to make final pronouncements in every regard. In the case of Brahma Kumari Dadi Jankiji, (Fig. 9) the EEG registered the presence of Delta Waves (1-3 Hz.) in all channels under all conditions. In other words, not only during meditation, but also while engaged in conversation or performing mental arithmetic, or while attempts were made to elicit various emotional responses, Dadi's brain waves remained constant, producing Delta (Fig. 10). Normally Delta Waves are not produced except by a person in the deepest state of sleep.

By subtracting eye movements from the graph, it was determined that the wave pattern was not produced due to movements of the eyes. Other double-checks were also made. No sign of brain abnormality was present either.

Normally, a person at rest—but not asleep—shows Alpha Waves when eyes are closed. When mental activity increases, Alpha is reduced or disappears entirely. Delta Waves (the slowest brain waves) are rare in a waking state, and utterly amazing when present during mental activity. Other meditators (using different technique) have also been tested who produced Delta Waves on occasion, but never with the intensity it was registered from Dadi Jankiji.

Dadi had been previously tested in 1978 at the Medical Science Research Institute of the University of Texas (U.S.A.), and there her stability of brain-wave production was first noticed. As a result, she was called "The most stable mind in the world".

Again, in 1979, she was examined in Australia, where similar brain-wave rhythms were observed. Based on these findings, Michael Hast described her as "A woman of perfect rhythm" (*Ziriuz*, Feb. 1979).

In simple terms, Dadi Janki had learned how to detach the mind from its physical engagements with the sense organs through the brain and nervous system. In this detached state, the body and brain are able to relax completely, while her consciousness centred in her soul, not in her brain, continues to function at peak levels. The difference between her own conscious apparatus and that of ordinary people is that due to the high level of her detachment, her cortex is no longer being 'driven' by sensory input and conditioned physical thought response patterns. Her mind, in a state of liberation from physical attachments, allows the cortex

including one's own body. A sense of brotherhood with other souls, without coming under their influence. One's actions will be elevated and characterized by integrity.

- C. Constant intellectual communion with the Supreme being, by which positive energy is received and transformed into pure action. The soul will be experienced by himself and others as humble, incorporeal, and viceless. No worldly obstacles can affect him.

In this brief outline of the characteristics of total positive health, we can see by even casual self-analysis that most of us today do not qualify in all four categories. There is a shortage of this health resource. Of the four, it is obvious that the spiritual dimension is most important, for it impacts most heavily upon the other three. The spiritually healthy being will have no difficulty in attaining mental and social health, as well as having a distinct advantage in maintaining the well being of his body.

The practice of Raja Yoga, in turn, is the strongest foundation for building the stage of one's spiritual health. The intelligent person will recognise when he is not entirely healthy mentally and socially, let alone spiritually. Common sense will tell him the above list of attributes is proper for a human being (even though he may justify his lack of them by comparing himself to unhealthy peers or society in general today). When he tries to understand why he cannot achieve his own highest goals, however, he generally meets with frustration. For until he has knowledge of the soul—until he grasps completely that it is mis-identification with the physical vehicle which causes lack of the subtler forms of health—the soul cannot rise out of the darkness in which he stumbles. Raja Yoga practice is built upon this priceless knowledge of reality.

3.3 PSYCHOPHYSIOLOGY OF RAJA YOGA

The practical results of Raja Yoga over past several decades have been so significant that western scientists have begun to investigate the cause of personality transformations they have observed in the students of the Brahma Kumaris World Spiritual University.

One of the most recent studies involved a series of psychophysiological experiments made in San Francisco, California (U.S.A.), at the Langley Porter Psychiatric Institute.

Ten members of the Brahma Kumaris Spiritual University had their brain waves measured by electro-encephalography (EEG), and their muscle tension, abdominal and thoracicorespiratory movements, and

lung carbondioxide levels were also measured while formed various mental and physical exercises.

The results have been quite exceptional, although it is perhaps too soon to make final pronouncements in every regard. In the case of Brahma Kumari Dadi Jankiji, (Fig. 9) the EEG registered the presence of Delta Waves (1-3 Hz.) in all channels under all conditions. In other words, not only during meditation, but also while engaged in conversation or performing mental arithmetic, or while attempts were made to elicit various emotional responses, Dadi's brain waves remained constant, producing Delta (Fig. 10). Normally Delta Waves are not produced except by a person in the deepest state of sleep.

By subtracting eye movements from the graph, it was determined that the wave pattern was not produced due to movements of the eyes. Other double-checks were also made. No sign of brain abnormality was present either.

Normally, a person at rest—but not asleep—shows Alpha Waves when eyes are closed. When mental activity increases, Alpha is reduced or disappears entirely. Delta Waves (the slowest brain waves) are rare in a waking state, and utterly amazing when present during mental activity. Other meditators (using different technique) have also been tested who produced Delta Waves on occasion, but never with the intensity it was registered from Dadi Jankiji.

Dadi had been previously tested in 1978 at the Medical Science Research Institute of the University of Texas (U.S.A.), and there her stability of brain-wave production was first noticed. As a result, she was called "The most stable mind in the world".

Again, in 1979, she was examined in Australia, where similar brain-wave rhythms were observed. Based on these findings, Michael Hast described her as "A woman of perfect rhythm" (*Ziriuz*, Feb. 1979).

In simple terms, Dadi Janki had learned how to detach the mind from its physical engagements with the sense organs through the brain and nervous system. In this detached state, the body and brain are able to relax completely, while her consciousness centred in her soul, not in her brain, continues to function at peak levels. The difference between her own conscious apparatus and that of ordinary people is that due to the high level of her detachment, her cortex is no longer being 'driven' by sensory input and conditioned physical thought response patterns. Her mind, in a state of liberation from physical attachments, allows the cortex

to remain in its inherent Delta rhythm.

The above conclusion is supported by other experimental evidence as well. For example, when the brains of animals are cut (with the animal alive and conscious) so that the cortex is isolated from the central region of the brain, Delta Waves are produced. A Raja Yogi simply cuts the connection intellectually—through re-routing his mental energy—rather than through a physical operation.

Unfortunately, many medical practitioners are under the misapprehension that this achievement, though marvellous, is extremely difficult to accomplish. With this belief, they fail to make effort, or encourage their patients, to move towards such a goal. Based on my own experience I can now respond that though it is indeed a high attainment, yet it is not so difficult as we usually imagine.

Sincere practice of Raja Yoga counts for a great deal, and with the help of powerful thought can enable us to reach such a state of consciousness easily, at least during the periods of meditation. Presence of Delta Waves is not correlated to the number of years of experience. One of the ten meditators tested had only four years of experience, yet showed significant Delta Waves. One who enjoys such a state of mind is definitely on the high road of positive health.

The system of Raja Yoga has now been so well analysed and clarified by yogic researchers at the Brahma Kumaris University that beginners today can easily learn effective techniques to produce Delta or Theta Waves (4-7 Hz) mixed with Alpha (8-13 Hz) and many physiological and biochemical benefits even after only a week of practice (Fig. 11). And the subjective correlatives of such brain wave production are serenity, self-confidence and supersensuous joy.

Though all this may be experienced in one second, still it should be noted that for deep and lasting results sincerity, interest, and regular practice are essential.

3.4 EASY RAJA YOGA : BASIC TECHNIQUE

Attempting to practise without benefit of precise and accurate theoretical knowledge is to sail rudderless upon an uncharted sea; to discuss theory without putting it into practice is not to go to sea at all. Therefore, let us briefly explore some of the theory behind Raja Yoga and then take the step of practising regularly in order to experience for ourselves all of its benefits and pleasure.

THE MOST STABLE MIND IN THE WORLD



In 1978, scientists at the Medical and Science Research Institute at the University of Texas, U.S.A., examined the brain wave pattern of B.K. Jankiji. She was described as 'the most stable mind in the World' as her mental state remained completely undisturbed, even while performing complicated mental exercises.

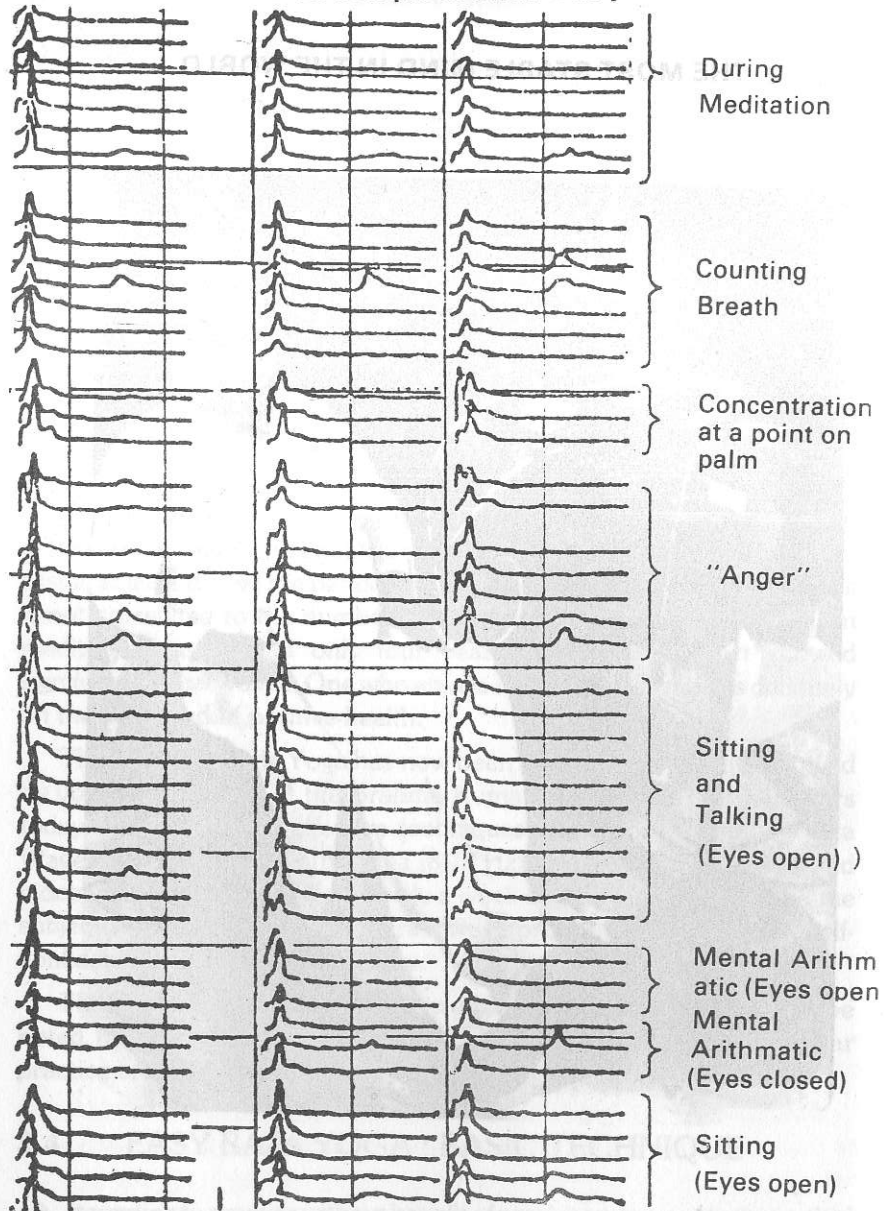


Figure 10.

Computerised E.E.G. of Janki Dediji in the different states of consciousness. It shows Delta Waves under all conditions.

PHYSIOLOGICAL BENEFITS OF RAJA YOGA

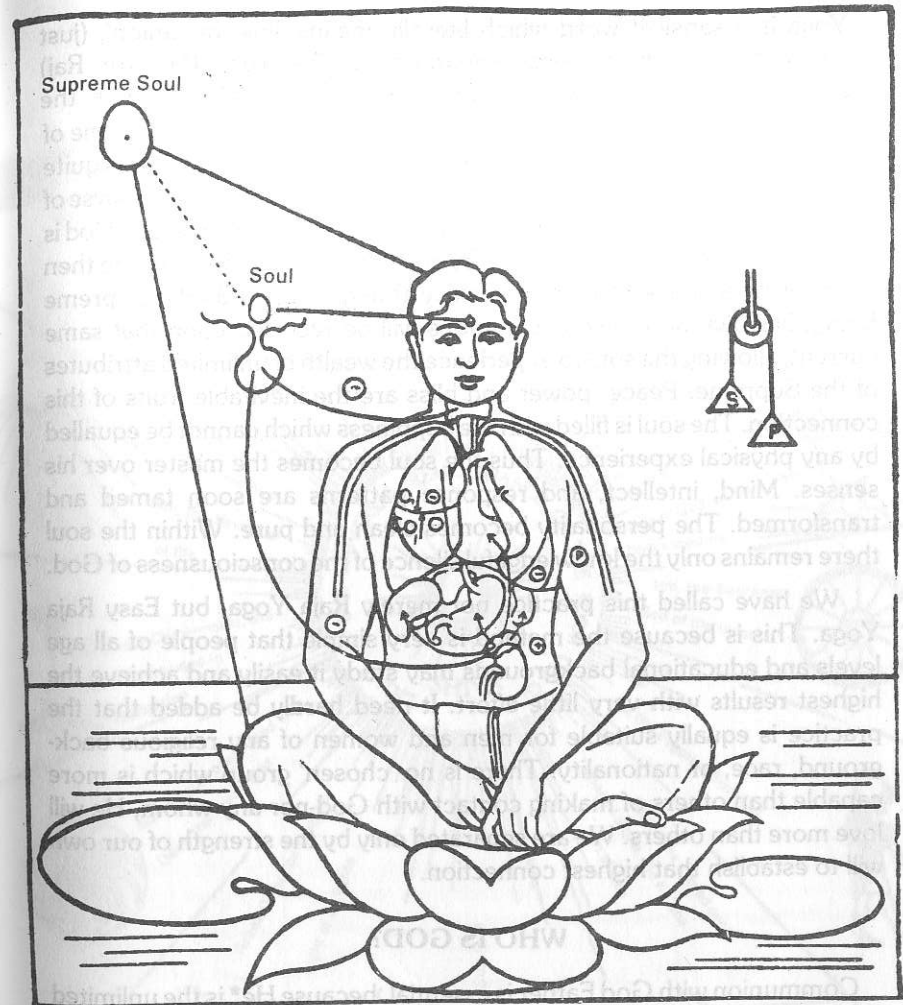


Figure 11.

Pulley represents slight over functioning of the parasympathetic system. Practice of Raja Yoga keeps lactic acid and steroid hormones always at lower level, stabilizes blood pressure at the necessary lower limit, increases lung carbon dioxide level, harmonises the endocrine system and so on.

FORM, ATTRIBUTES AND NAME OF THE SUPREME

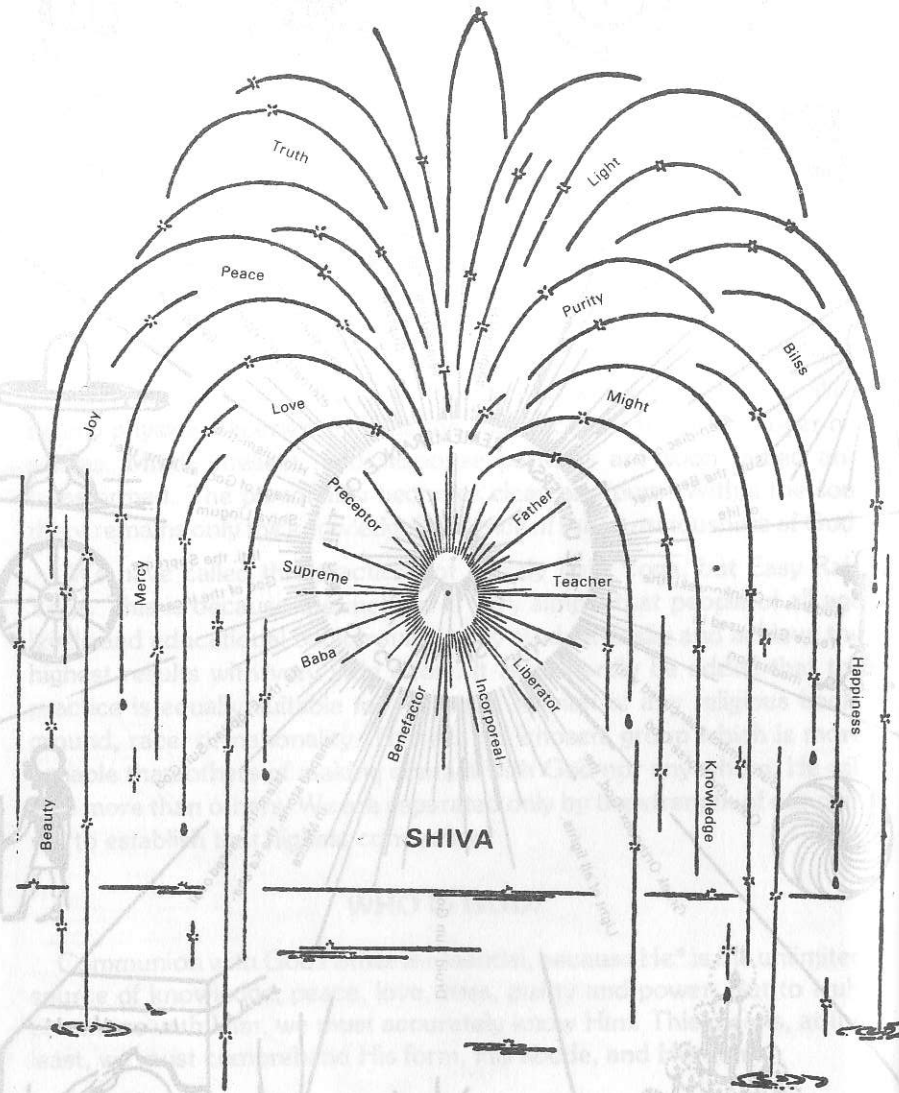


Figure 13.

The Supreme is the smallest point of divine light. His attributes are unlimited like ocean. As He is world benefactor His name is Shiva.

The form of God has been spoken of universally in the same terms; He is incorporeal and He is light. Christ, Moses, Guru Nanak, and teachers from every religion agree on this. Some times, God is considered clearly as a point of light (for example, the Egyptian pyramid is the image of God as a Point of Light radiating His imperishable illumination downward upon the earth. This is why the Pharoas wished to bask in that light at death, and built such lavish and time-defying memorials).

Other religions have portrayed the Aura which surrounds Him, an oval or flame-shaped image. And so the Hindus, for example, worship Shiva in the form of an oval stone, which represents that Supreme Flame. This same shape went westward with Abraham, who established such a symbol for worship in Mecca, and even today it is the holiest shrine in Islam, and a required object of pilgrimage in the life of a Muslim. Likewise, in the Jewish synagogue we can see the same holy Flame, called the Ner Tamid, or Eternal Light, raised above the Ark of the Law. That form also went eastward, becoming the Buddhist stupa, then evolving in China into the pagoda, and appeasing in Japan once more as a small oval-shaped stone, which certain Buddhist sects worship as 'the Peace Giver' (Fig. 12). Even modern offshoots of the main religions maintain the old form, though the meaning has been lost. The Mormons in America, for example, hold a special regard for beehives, which are of the same shape, and one can readily interpret the metaphor of God as that Honey Hive and His children as the bees.

We have determined the universal belief in God as a being in His own

limitations of gender. God may be approached equally as our Father and our Mother, or for that matter our Supreme Beloved Husband, or even as our child to whom we give everything. But there are reasons for using the pronoun 'He'. In the first place, we are emphasizing that God is not an 'It'. He is a personality with whom we can relate in fact, the most Intelligent person in the Universe. Secondly, He is the Founding Father of world, just any limited country has such. Thirdly, unlike a mother whom the child recognizes automatically, the Father must be introduced to the child, and if there has not been contact since long, then the child may even reject the Father. In the case of God, too, we have been separated from Him for a very long time, and now we must re-introduced. Many will fail to recognize Him. Fourthly, God's personality and role are Fatherly in that He does not simply hold us and offer us what we like, as a mother would, but He expects us to go our and earn our keep, to grow us and become as He is. There are even deeper reasons for calling Him Father, but such matter goes beyond the compass of this book.

right, though without a human form. Not being physical, he takes up no space. The Supreme has then, the amazing form of an infinitesimal point of light, from which light emanates in an oval aura, just as with a candle, light emerges from a point source and assumes an oval form (Fig. 13).

God, however, is not a point of physical light but of divine light. He is conscient and living. Although His form is the smallest of the small (the Greek word 'atom' derives from the Hindi 'atma' which means soul), yet His attributes are the greatest of the great, limitless as an ocean. God's supremacy over us consists not in brute force, obviously, but in His supreme possession of virtues and spiritual powers. He is the Ocean of Knowledge, of Peace, of Love; the Eternal fountain of Purity, and Bliss; the Tower of Spiritual Might. This relationship of the infinitesimal to infinitudes is the metaphysical corollary to the 'inverse law of energy' so well-known to physics.

God can be remembered according to any of His attributes, or by names which symbolize them. But the essence of all His attributes is that He is the world benefactor. In Sanskrit, this concept is represented as 'Shiva.' Therefore, Shiva the earliest-given name of God, contains the essence of all the qualities, attributes, and divine deeds of the Supreme.

God is the Father of all souls. Just as we call our bodily father by loveful names like 'daddy', 'papa', or 'baba', in order to increase the natural feeling of closeness, so even more and when we are desirous of having a loveful and intimate communion with the Supreme, we remember Him as 'Baba'. We, souls are the children of 'Shiv Baba'. To address Him in this familiar manner is to take a great step closer to His Love.

Souls and the Supreme Soul

All souls as well as the Supreme are identical in form; we are the points of light. Yet the attributes of souls are limited, whereas those of the Supreme are beyond limit.

All souls take birth in human bodies. These are our costumes, in which we play our roles on the world stage, in the eternal cycle of birth and death. But the Supreme Soul is the One who is free from the bondage of this cycle, beyond the pull of action or desire.

The Supreme is the One who is totally fulfilled, forever complete, constant throughout eternity. He is not subject to the law of entropy. His name-Shiv Baba-belongs forever to Him, whereas human names are mere

lables for the perishable body. His attributes are also constant. No human being is capable of such eternal stability in perfection. Therefore, he is worshiped by people in every corner of the World. We instinctively turn to Him for the stability we ourselves are lacking.

The Dimension Beyond

But if we are truly to turn to Him, in any but a blind and desperate fashion, we must know His abode. Clearly, He does not make His home in this physical world. When thinking of God, people automatically turn their faces upward. Towards where?

Beyond the farthest reaches of this material universe, there is another dimension called the Subtle (or Angelic) Realm. Beyond even this high plane is another, the incorporeal World. This is a region of changeless light, peace, utter silence. This is the eternal Home of Shiv Baba, the Almighty Father. It is also the original dwelling place of all souls, before we came into this world of matter. We descended from this realm of peace and to it we must finally return.

It is rightly said that the realization of reality is very easy and very quick. Simply by turning our minds to this Highest abode of light and silence, we can experience the sweet, peaceful light and serene and subtle state of mind, which by themselves are evidence of the existence of this highest dimension, the forehead. I am completely detached from the physical body. My original qualities are peace, love, bliss, purity, and might. The world of tranquil light is my real home, where I dwell in a state of total relaxation. My Supreme Father is also a brilliant point of light. He is the Ocean of Peace, the Unlimited Source of Purity, Love, Bliss and Power. I become fully charged with these attributes by tuning my thoughts with Him.

The Four Stages of Yoga

First Stage : Initiation

To begin the practice of Easy Raja Yoga, one need not sit in any special posture. In fact, difficult postures should be avoided in favour of one's usual, easy, and natural way of sitting. One may sit on the floor, use a cushion, or sit comfortably in a chair. Since, the aim is to go beyond physical awareness, any pain which pulls you back to the body is counter-productive. On the other hand, if one meditates in too comfortable a position (like lying in bed), one is prone (especially at first) to fall asleep.

Take balanced approach and judge your own capacities.

While meditating, there is no need to close the eyes. Actually, it is better not to. Some people believe that with open eyes one may become distracted by things occurring in the field of vision. But infact, the scenes created by the imagination when the eyes are closed are far more distracting. Attention diminishes rapidly with eyes closed, and soon the mind has wandered far from one's object and purpose. Furthermore, one is much more likely to enter the state of sleep rather than that of yoga. So it is recommended that one should learn to meditate with eyes open. Even if it seems more difficult at first, soon it will become natural and the result will be that a powerful stage can be maintained even during daily activities, when open eyes are necessary.

Second Stage : Meditation

This is the most active and important stage. Here we produce a connected series of pure and positive thoughts, which become the fuel for the soul's inner journey. Through this active churning of spiritual knowledge and its implications, the self becomes aware of its own true nature and tunes its intuition to the qualities and attributes of the Supreme. The basis of meditation is the seed-thought that I am a soul, a point of conscient light, residing in the centre of this, there is no problem of taming a wandering mind. And finally, because the communication soon becomes a two-way channel, the loveliest of human experience and emotion quickly unfolds, transforming even the most wornout and hopeless souls into peaceful and happy, strong and stable persons, able to actualize the farthest reaches of their potential.

Third Stage : Concentration

In the stage of meditation, worldly thoughts cease without difficulty, as the mind becomes fascinated with its own reality, and the presence and power of God becomes evident. Now gradually the speed of this pure thinking is reduced until it has become very, very slow. Then the practitioner silently stabilizes his heightened awareness on the self and the Supreme.

Fourth Stage : Realization

As our thoughts become fully channelled in this positive direction, we start to experience an extraordinary sense of peace and well being. The mind plunges ever deeper into this experience, it becomes saturated with

the living qualities of the Supreme. The soul realizes itself as a point of divine illumination filled with love and might. All negativity is washed away in this final stage. There is only the silence of the blissful presence of the Supreme.

Easy Raja Yoga leads to a very rapid attainment of this stage for several reasons. In the first place, the knowledge is accurate, allowing the soul to understand itself in a very precise manner and thus easily to detach from the body. Secondly in this yoga is a highly creative use of the mind. Every time one sits down to meditate it will be a different experience. There is no stereotyped repetition of a word or phrase. One's mind is free to develop an individual and deep relationship with the most interesting Being in the universe.

All Yogas in One

Some people are of the opinion that one must choose a particular method of yoga according to one's personality. An emotional person would then practise bhakti yoga (the yoga based on love and devotion). An intellectual would select gyan yoga (the yoga founded on knowledge). A more actively inclined individual might prefer karma yoga (the yoga based on action). Easy Raja Yoga, however, is suitable for people of all personality types and interests, because it combines the essence of all the various paths.

For example, an emotional person can progress very quickly on the path of Raja Yoga because a feeling of devotion and love for the Supreme is so easily developed. Intellectuals will find the knowledge from which Raja Yoga proceeds to be endlessly fascinating, and will appreciate the rationality of this path, wherein blind faith is out of the question. Socially oriented persons will find Raja Yoga adaptable to all situations; since it can be practised while one is at work, it also causes one to be aware of the ethical and spiritual aspects of every relationship, allowing him to overcome his errors and attain perfection in action. Those who thrive for discipline will also welcome the ability Raja Yoga gives one to gain control over thought processes and behaviour patterns, without having to undergo strenuous, physical or mental exercises.

Through practice of easy Raja Yoga, one can enjoy the essence of all yogas: Peace of mind, intellectual clarity and purity, absence of worry, depression or negative tendencies, self-discipline and transformation of

behaviour patterns, supersensory bliss and relaxation even of unconsciously held muscle tensions. Thus, Raja Yoga subsumes within itself the fundamentals of all methods of yoga, and confers the achievements of them all naturally and easily, using one very simple method which anyone can learn.

3.5 A SAMPLE OF MEDITATION FOR BEGINNERS

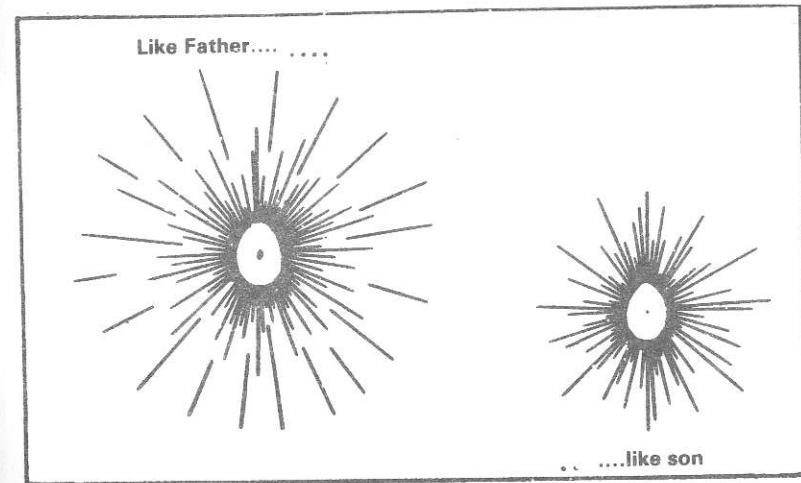
Sit in a natural and an easy manner. Read the following words slowly, thinking deeply over the thoughts which they contain:

I withdraw my awareness from my physical organs... I become aware of my inner self—a point of light... the eternal soul... I now feel light... as the burden of physical thought diminishes... A non-material light glows in the centre of my forehead... I am the driver and my body is the car.

As my thoughts concentrate, I become light... floating... I find deep peace within... and I am filled with power... I tune my mind to a new dimension... My original home... the soul world... the land of peace and silence... the land of tranquil light... I bathe in this glow... and once again filled up with total peace and purity... My home has no limits... I fly in this expanse of light, so free of tension... I enjoy the sweet stillness... High in my home now I am so free and light... Here in my true home—the soul world—there is another brilliant point of light... The Almighty Father is an ocean of peace, purity and power... As I come closer to this brilliant light I become still more peaceful and light... Going deeper into this silence, I feel so still and I begin to explore this depth of peace... God, my Sweetest Friend provides me with the ecstasy of unlimited warmth and love... Gently, waves of light from this sweet ocean now are passing over me... a golden glow of tender love... I become so still... I feel... I have gone to the very bottom of this ocean of serenity... I taste the very essence of real peace... Peace becomes my true nature once again...

Now slowly I become aware of the physical costume—the body, yet from within I am completely peaceful and relaxed... I will maintain this awareness even during activities... I will remain detached and light while at work... nothing can disturb me any more.

Practise meditation twice daily for about ten minutes. The early morning and evening atmosphere is most favourable.



To the Reader

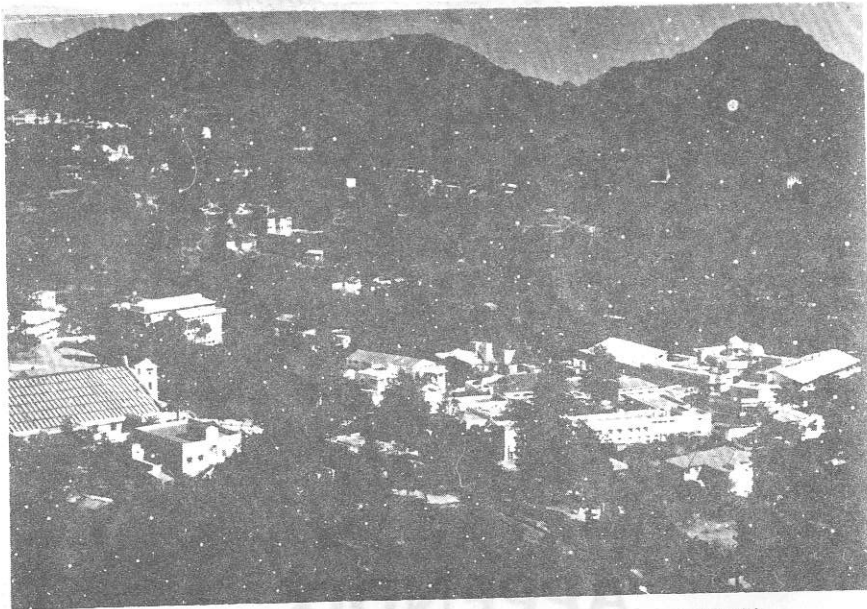
If you have found the material in this book interesting, and wish to experience more deeply the benefits and achievement of *Raja Yoga*, you are cordially invited to take part in an introductory course in meditation and spiritual knowledge, which is offered by appointment free of charge at any of the over 1350 Brahma Kumaris Raja Yoga Centres around the world.

For thorough understanding of Raja Yoga and Godly knowledge:—

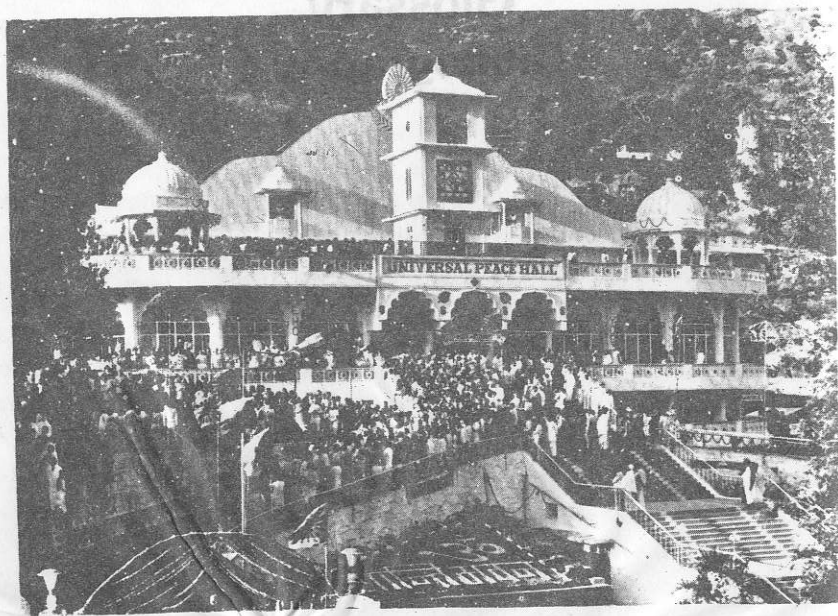
1. Various books are available in several languages.
2. Correspondence course is conducted in English Hindi, Marathi, Gujarati, Kannada etc.
3. Regular Magazines are being published in English, Hindi, Gujarati and Kannada.

A monthly news magazines "PURITY" and World Renewal in English is also available.

Local Centre:



The International Headquarters of the Brahma Kumaris World Spiritual University of Mount Abu, (Raj.) India.



The beautiful OM SHANTI BHAVAN at the HQ.

Glossary

Adrenals: A pair of endocrine glands, which lies at the superior poles of the two kidneys. Each is composed of two distinct parts-the adrenal medulla and cortex. The adrenal medulla is functionally related to the sympathetic system and adrenal cortex secretes corticosteroids.

Anamnestic: Pertaining to the past history of patients

Anaphylaxis: An acute allergic reaction that occurs generally throughout the body in response to a foreign substance to which the person is sensitive.

Angine Pectoris: A disease due to the reduction in the blood supply to heart muscles. The pain is usually experienced at the left arm and the left shoulder.

Anorexia Nervosa: Lack of loss of appetite due to psychological reasons.

Auditory: Pertaining to the sense of hearing.

Autonomic Nervous System: The bodily organs which are not subject to voluntary control are regularised by autonomic nervous system.

Cardiospasm: Spasm (sustained contraction) of the upper sphincter of the stomach.

Catecholamines: The hormonal secretions of adrenal medulla in response to sympathetic stimulation. They are individually known as epinephrine and norepinephrine.

Cervix: Neck of the uterus(Womb).

Chronic Nephritis: Inflammation kidney for long duration.

Concomitant Divergent Squint: Failure of eyes to fixate some object (or to follow one another). The angle of deviation is outside and remains constant.

Hemolytic Streptococi: An organism which cause disintegration of elements in the blood.

Herps Simplex: A disease characterised by watery blisters on the skin and mucus membrane.

Homeostasis: (adj., Homeostatic) a tendency towards uniformity or stability in the normal body state of the organism.

Host: An animal or plant provides nutrition and sustenance for another organism.

Hypothalamus: It is a mass of grey matter in the anterior portion of the diencephalon (see: cover page). Although it occupies a relatively small area in the human brain, the hypothalamus has important relationship and connections to structures mediating visceral, somatic and emotional functions.

IgG Antibodies: A gamma globulin molecules produced in the body in response to stimulation by specific foreign substance that are capable of attacking the invading agent.

Influenza: An acute infectious epidemic disease, marked by depression, distressing fever, acute-catarhal inflammation of nose, larynx and bronchi, neuralgic and muscular pains etc. caused by a filterable virus.

Moter System: The system related to bodily activity which is under one's conscious control.

Muscle Tone: Even when muscles are at rest, a certain amount of tautness usually remains. This residual degree of contraction in skeletal muscle is called muscle tone.

Lupus Erythematosus: Inflammation of the skin with disc like patches.

Lymphoma: A primary tumour of lymphoid tissue.

Neoplastic Disease: A condition characterised by presence of new growth.

Neurodermatitis: A chronic itching with lechenoid eruption of the skin.

Neurons: Cell units making up the nervous system.

Peptic Ulcer: An ulcer in the specific part of the duodenum or stomach.

Poliarteritis Nodosa: A condition with inflammation and nodular projection in the several arteries.

Psoriasis: A recurrent papulo squamous condition of the skin.

Rhematoid Arthritis: A sudden inflammation of large joint in children.

Rhinovirus: A group of viral agents found to be associated with the common cold.

R.N.A.: It controls the chemical reactions of the cytoplasm. The formation of Ribonucleic acid is controlled by D.N.A. (Deoxyriboneucleic acid) which is present in the nucleus.

Sarcoma: A tumor of mesenchymal derivation, often highly malignant.

Seronegative: The state of showing negative results on serologic examination.

Thyroid Goiter: Enlargement of the thyroid gland causing swelling in the front of the neck.

Titer: The quantity of a substance required to react with or to correspond to a given amount of another substance.

Tularemia: A disease of rabbits and other rodents resembling to plague.

Warts: A small round usually elevated lesion on the skin or mucus membrane.

Ulcerative Colitis: It is a serious disease that was first distinguished from infectious dysentery in the late 19th Century. Murray drew attention to psychosomatic factors in the disease in 1930. It is an inflammatory disease of the mucosa of the colon.

Urticaria: A vascular reaction of the skin marked by the transient appearance of slightly elevated patches.

Bibliography

- Admatez, J.H., *Jauranal of Neurosurgery*. 16:85, 1959.
- Balint, M. 1969. *The structure of the training cum-research seminars: its implications for medicine*, J.R.Coll, Gen Pract. 17, 201.
- Balint, M. 1973. *Research in psychotherapy*. Ch. 1 in: Balint, E and Norell J.S. (eds) *Six Minutes for the patient*. London, Tavistock.
- Balint, M. (1957). *The Doctor, His Patient and The Illness*, London, Pitman Medical (second and enlarged edition 1964).
- Bignall, K.E., *Experimental Neurology*. 18:56, 1967.
- Boddy, J (1977). *Brain System and Psychological Concepts*.
- Botim, D., Hiley, B. 1975. *On the Intuitive understanding of nonlocality as implied by quantum theory*. *Foundation of Physics* 5, 96.
- Capra, F. 1975. *The Tao of physics*. Shambala London, England and Berkeley California.
- Canter, A., *Changes in mood during incubation of acute febrile disease and effects of pre-exposure psychologi status*. *Psychosom. Med.*, 34:424, 1972.
- Chow. K.L., Randall, W. and Morrell, F., *Electroenceph. Clin. Neurophysiology*. 20:357. 1966.
- Coe, C.L. Mendoza, S.P., Sometherman, W.P., and Levine, S., *Mother-infant attachment in the squirrel monkey: Adrenal response to separation*. *Behav. Biol.* 22:256, 1978.
- Dilman, V.M., *Metabolic immunodepression which increases the risk of cancer*, *Lancet*, 2:1207, 1977.
- Eccless, J. (1970) *Facing Reality*, Springer-Verlag, New York.
- Eccless, J. (1976) *Understanding Brain*, Springer International, New York.
- Eccless, and Popper, K (1977) *The Self and its Brain* Springer International, New York.
- Einstein, a, 1923. *The Principle of Relativity* Dover, New York.
- Frankenhaeser, M., *Experimental approaches to the study of human behaviour as related to neuroendocrine function*. In *Society, Stress and Disease* L. Levi, editor, Vol. I.P. 22. Oxford University Press, New York, 1971.

- Froberg, J. Karlsson, C., Levi, L., and Lidberg, L. *Physiological and biochemical stress reactions induced by psychosocial stimuli*. In *Society, Stress and Disease*, L. Levi, Editor. Vol. I.P. 280. O.U. Press, N.Y. 1971.
- Greene, W.A., *The psychosocial setting of the development of leukemia and lymphoma*. *Ann N.Y. Acad. Sci.* 129:794, 1966.
- Greenfield, N.S., Roessler, R. and Crosley, A.P. *Ego strength and length of recovery from infectious mononucleosis*. *J. Nerv. Ment. Dis.*, 128:125, 1959.
- Harris C. 1976, *Postgraduate education in Holistic Medicine in 'Integrated Medicine'* ed. Maxwell, H., John Wright, Bristol 1976.
- Heisenberg, W, 1958 *Physics and Phylosophy*. Harper and Row, New York.
- Holdeman, L., Good, I., and Moore, W. *Human fecal flora: Variation in bacterial composition within individuals and a possible effect of emotional stress*. *Appl. Environ. Microbiol.* 31:359, 1976.
- John Boddy, *Brain Systems and Psychological concept*. P.P. 435, John Wiley and Sons, New York, 1977.
- Kasi, S.V., Cobb, S., and Brooks, G.V. *Changes in serum uricacid and cholesterol levels in men undergoing job loss*. *J.A.M.A.* 296:7500, 1968.
- Katcher, A.H., Brightman, B., Luborsky, L., and ship, I. *Prediction of the incidence of recurrent herpes labialis and systemic illness form psychological measurements*. *J. Dent. Res.*, 52:49, 1973.
- Kram, J. Bourne, H., Maibach, H., and Melmon, K. *Cuaneous immediate hypersensitivity in man: Effects of systematically administered ad-renergic drugs*. *J. Allergy clin. Immunol.*, 56:387, 1975.
- LeShan, L. *Psychological states as factors in the development of malignant disease: A critical review*. *J. Natl. Chancer Inst.*, 22:1, 1959.
- Lubrosky, L., Mintz, J., Brightman, J., and Katcher, A., *Herpes Simplex virus and moods; A longitudinal study*. *J.*, *Psychosom. Res.* 20:543, 1976.
- MaClean, P (1978) *Biological Foundation of Psychiatry*.
- MaClean, P.D., *Sensory and perceptive factors in emotional functions of the traine brain*. In *Biological foundation of psychiatry*. ed. R.G. Grenell, and S. Gabay. Vol. I, P.P. 177-198, Reven Press, New York, 1978.
- Rimon, R.A., *Psychosomatic approach to rheumatoid arthritis Acta Rheum. Scand.*, Suppl. 13, 1969.

- Rodman, G.P., editor. *Primer on the rheumatic diseases*. J.A.M.A., 224:663, 1973.
- Sachar, E.J., *Neuroendocrine in depressive illness*. In *topics in Psychoendocrinology*. Grune and Stratton. P. 135, New York 1975.
- Schmutzler, W., and Frundt, G.P. *The effect of glucocorticoids and catecholamines on cyclic AMP and allergic histamine release in guinea pig lung*. Int. Arch. Allergy Appl, Immunol., 49:209, 1975.
- Schonfield, J., *Psychology and life experience difference between Israeli women with benign and cancerous breast lesions*. J. Psychosom. Res., 19:229, 1975.
- Solomon, G.F., Amkraut, A., and Kasper, P. *Immunity emotions and stress with special reference to the mechanisms of stress effects on the immune system*. Psychother. Psychosom., 23:209, 1974.
- Stapp, H. P., 1971. *S. Matrix interpretation of quantum theory*. Phys, Rev. D3 1303-1320.
- Solomon. G.F., Smith. A. McClellan, B., and Amkrut, A. *Immunoglobulins in psychiatric patients* Arch. Gen. Psychiatry. 20:272, 1974.
- Thompson, R.F. *In foundation of phsiological psychology*, Herper and Row. New York, 1967.
- Totman, R., Reed, S.E., and Craig, J.W. *Cognitive dissonance, Stress, and virus induced common colds*. J. Psychosom. Res., 21:55, 1977.