Our distinguished Siam Society strictly adheres to the rule that no controversial subjects should be discussed in its meetings. Nevertheless, it may be permissible to speak on the Buddha. Doctrine, not as a religion nor as a philosophy of life based upon the ethics of ideal conduct, but purely as a natural science, a study of human nature. In fact the Buddha's Doctrine is a profound study of the "ultimate reality" and particularly a unique study of human nature as complete as ever humanly possible, and in no contradiction with modern science.

Hence the title of my lecture is "Human Nature in the Light of the Buddha's Teachings". In it I shall endeavour to explain the Buddha's conception of human physiology and psychology. At the same time I shall discuss the question whether Buddhism is as rational as science or not.

The Buddha's conception of human physiology is that the human organism consists of two inseparable parts, namely, the corporeal form, Rūpa, and the mental body or mind, Nāma. Nāma-Rūpa form a unity; without one or the other life cannot exist. The corporeal body consists of the "Four Chief Elements": EARTH, WATER, FIRE, and AIR. They are the material out of which the body is built, nourished and maintained. "This my formed body is composed of the Four Elements, generated by father and mother, built up from rice, porridge and sour gruel", says the Buddha. This conception of the Buddha of organic life still holds good to-day. All organisms derive their material from the inorganic world and modern science speaks of matter as consisting of solids, liquids, gaseous matter and latent heat.

"What is the Earthy Element? Whatever is found in the body of a hard or solid nature, such as the hair of the head and of the body, nails, teeth, skin, flesh, sinews, bones, marrow, kidneys, heart, liver, diaphragm, spleen, lungs, intestines, mesentery, stomach,
excrements and whatever else of hard and solid nature exists in
the body is called the internal earthy element. And whatever
exists internally and externally of earthy element is one and the
same Earth-Element”.

“What is the Water-Element? Whatever manifests itself
internally as being liquid and watery, such as bile, mucus, pus,
perspiration, fat, tears, serum, saliva, nasal mucus, oil of the joints,
urine or anything else that is liquid or watery - that is called the
internal water element. All that is internal and external water
element is one and the same Water-Element”.

“What is the Fiery-Element? Whatever is found internally
of the nature of heat or fire such as whereby heat is generated,
whereby decaying takes place, whereby the physical body becomes
heated (as in fever); whereby what is eaten or drunk, tasted,
swallowed undergoes complete transformation (digestion) and what-
ever else of hot and fiery nature exists in the body is called “internal
fiery element Whatever exists of internal and external Fiery
Element is one and the same Fiery Element”.

“What is the Air-Element? Whatever is found in the body
of the nature of air or wind, such as the upcoming airs and the
downgoing airs; the wind seated in the stomach and in the intesti-
tines; the airs that traverse the limbs, the incoming and outgoing
breaths, there and whatever else there is of airy nature in the body
is called internal air element. Whatever internal and external air
element exists is one and the same Air-Element.”

The Buddha enumerates thirty-one body constituents* and
twenty-two Indryas or mental principles and eighteen elements
(Dhātu) or psychic elementary substances, which all are dependent
upon the Four Chief Elements from which the human organism is

* See Mahā Satitthana Sutta, Dipha nittaya 22nd Sutta. The Buddha
distinguishes 31 body constituents (Patī Vul pubba) (the body organs and
their secretion) which he calls Patī Vul pubba or “Impure and disgusting
matter”.
Human Nature in The Light of The Buddha's Teachings

built and which form the basis of human personality. The 18 psychic elements according to the Buddha are: the eye, form, vision; the ear, sound, hearing; the nose, odour, smell; the tongue, flavour, taste; the touch, contact, feeling; the mind, ideas and objects. Sometimes the Buddha mentions only six Indryas, meaning the Six sensory organs with which the corporeal organism is endowed and which constitute our personality. This is what he says: "Five senses there are, friend, the sense of sight, of hearing, of smell, of taste and the sense of touch, each having a different sphere and field of action; none sharing in the sphere of action of any other……. Their mainstay is thinking. Thinking is that which participates in the sphere and field of action of each sense." The mind as the organ of thought is called by the Buddha "Mano" the sixth sensory organ of our six-sense-organism.

How do our sensory organs function? First of all the sense organ must be intact, secondly the object corresponding to each sense must be within the reach of the latter, and thirdly consciousness must be present. Only when these three factors are present do eye-consciousness, ear-consciousness, nose-consciousness, tongue-consciousness, body-consciousness and mind-consciousness arise. This sense-consciousness each time arises only when the sense organ is interlocked with its corresponding object. And the interlocking, "the bringing together", of sense organ and its object is caused through Volition. Volition is the interlocking agent; it is that which causes us to pay attention to objects and thus to become conscious of them.

Our corporeal form together with the six sense organs constitutes the body or Rūpa-Kāya, while the second part of the human organism is called Nāma-Kāya and consists of four mental Aggregates: namely, Sensation, Perception, Volitional mind activities (Sankhārā), and Consciousness. The bodily form, together with the four mental Aggregates, is called by the Buddha the "Five Aggregates of Attachment", because we are attached to them in the false belief that they are the essence of our personality.
How profound was the knowledge of the Buddha of the functions of the human organism. It sounds almost like modern physiology. But still more astounding is the Buddha’s conception of human psychology.

In fact, his conception of the mind is unique in history and unsurpassed by modern natural science. It is so much the more amazing as the Buddha gained his knowledge of human nature through intuitive insight and by cognition alone. He perceived the ultimate reality without the modern scientist’s complicated laboratories and without his ingenious scientific apparatus.

According to Buddhist psychology the mind works as follows: contact with the outer world through our sensory organs sets our mental faculties (Nāma-Kāya) into action. Whatever cause arouses consciousness arouses in one or the other of the sensory organs, whether eye-consciousness, ear-consciousness or mind-consciousness for example, creates Sensation (feeling). “Out of contact arises feeling. What one feels that one perceives. What one perceives that one thinks; what one thinks, that on delays on (papāṇa). What one delays on, that in consequence of this, presents itself to him as a totality of single perceptions of which he becomes conscious:

- By the eye as past, present and future forms,
- By the ear as past, present and future sound,
- By the nose as past, present and future odours,
- By the tongue as past, present and future flavours,
- By the body as past, present and future objects of tactility,
- By the mind as past, present and future objects of thought”.

(Madhūpindika Sutta, Majjhima-Nikāya).

Thus sensations, perceptions, volitional activities or thoughts can only arise in dependence upon consciousness, and consciousness as we have seen before is dependent upon volition which causes interlocking between sense-organ and its corresponding object. When we pay no attention to objects no consciousness of them
arises. Furthermore, our mental faculties form a unity. None of the mental aggregates can be separated from the others. Any sensation caused through contact of our sensory organs with the outer world is immediately followed by perception and thought. They always occur jointly; they flash simultaneously like a "multi-coloured flame" and disappear in the next moment when our attention has ceased. They are the products of the activities of the sense-organs always created anew so long as life lasts. Of all mental activities Consciousness is the dominating factor. It manifests itself in all our body functions as well as in our mental activities. The cause of consciousness is Volition, the will to live, to be and to possess. And so long as our will-actions are influenced by the desire to be, and are misguided by greed, ill-will, and delusion, so long shall we have to suffer and to be reborn again and again.

How does the illusion of Self arise? It arises through contact of our six senses with objects of the external world. The delusion of self as being a separate entity different from all others and of possessing a soul arises through our erroneous belief that it is we who see, hear, smell, taste, feel bodily contact and think, when in reality it is each time only the respective sense organ which sees, hears and thinks — not I. We furthermore imagine that it is we who experience sensations, perceptions, think and are conscious. In reality, our mind-activities are nothing but manifestations of our Karma created in past lives and in the present. Our will-actions are unconsciously or consciously directed by the will to live, to be and to possess; they are the effects of our past life Karma. Our will-actions are committed in ignorance of the "Three Signs of Life" (its impermanence, misery, and nonselvcontainenedness) and are misguided by greed, hatred and delusion, that is by human passion and emotion. Man has no abiding principle, no soul, as all aggregates of existence are subject to constant change and there is nothing in them which we could claim to be the ego.

According to the Buddha, therefore, the highest state of mind, the greatest wisdom, is just to see only without emotion, without passion. It means to be fully conscious of all that we see and feel
and yet not be attached to what we see and feel. It means to possess perfect equanimity (Upekkha) free of delusion and passion, free of all attachment to the pleasures and sorrows of actual life. It is not necessary to enter that state of equanimity throughout one's life time, not even for 24 hours at one stretch. But the practice and training of the mind to attain to equanimity is to have this state of mind at one's disposition whenever it is needed to alleviate one's pain or sorrow.

The Buddha's conception of human nature contains no hypothesis, no man-made ideals, but is based upon the true facts of life won by intuitive human insight and by cognition alone. And the Buddha's purpose in his study of human nature was to find out the ultimate reality which cannot be realised in the outer world. The solution of the riddle of life, says the Buddha, the origin of all suffering and its explanation is to be found "Within this corporeal organism (of ours) endowed with consciousness". This brings us to the second part of my lecture in which I shall discuss some difficult problems in Buddhism in the light of modern science.

The main questions asked by Westerners are: How far does the Buddha's cognition of human nature harmonise with modern science? Has science been able to contradict any of the Buddha's Teachings? Is Rebirth a reality? And how does Rebirth take place?

In the view of modern science, which is purely a materialistic one, "the universe is a great machine. Man is a small machine, made possible by an accidental arrangement of atoms and a naturalistic evolutionary process. Suffering is man's inescapable lot in his struggle for survival. It has no "Meaning" other than that; no purpose. Death is a dissolution of chemical elements; nothing remains." (quoted from "Many Mansions" by Gina Carminara, New York 1943).

In a very similar way another materialist, well known in Bangkok, expresses himself as follows:— "Man is a chemical works in which the various chemical substances contained in our body
react against each other, making the normal functioning of the body organs possible. Our mental activities are also caused by such chemical reactions. Any disruption of these chemical processes causes ill-health or disease and finally leads to death when the chemical substances necessary for our body functions can no more be produced by the body or are not supplied in sufficient quantities from outside. In consequence, if science could produce synthetically the exact kinds of chemicals necessary for the process of life, it would be possible to prolong man's life for an indefinite period. Death is nothing but the cessation of these chemical reactions. As man possesses no abiding principle, no soul, the dissolution of his body is his final end”.

In the Buddhist conception, however, man is not an accidental arrangement of atoms nor a naturalistic evolutionary process. But man is his own creator. He has come into the present existence by the will-actions of his past lives, that is, by his own created Karma. He is what he has made himself. Buddhists believe in Karma and not in evolution. Evolution is a progress from the lowest stage of animal life to the highest stage of man; but, according to the law of Karma, man may often regress depending upon his bad will-actions to a lower realm of existence or he may progress from the ordinary stage of human being to a higher spiritual realm of existence until he has attained to such perfection and purity of mind that at his death he shall no more be reborn, as in case of an Arahant.

Man is not only subject to the Law of Karma but as a sentient being he bears the “Three Signs of Life” namely its impermanence, its misery, and its nonself-containedness, inherent in all life. He suffers precisely because of his ignorance of these Three Signs of Life and because of his attachment to life. He furthermore suffers from his own created Karma, from his will-actions committed in the delusion of self as being a separate self which leads to greed, hatred and delusion. Ignorance, the delusion of self, craving and passion (Kilesa) are the causes of Karma and the cause of rebirth. The causes of Karma, and Karma itself, must be completely destroyed before one can attain to NIRVĀNA—to perfect freedom and peacefulness of mind.
Already for quite a long time, the Buddha's Law of Causation has been scientifically proved, namely by Newton's Third Law of Motion, which says that "to every action there is an equal and opposite reaction." This law is held by Buddhists to operate from one life to the next, that is to say, Karma is the connecting link between one life and the next. This means that our present life is the result of our past life actions. And our future will be the result of the present. (quoted from "Buddha Dhamma and Science" by Yong Hoontrakul, B.Sc. (Techn.))

Although the Law of Karma has been approved by science, Rebirth or Incarnation has not yet received scientific recognition. Yet if one believes in Karma one is bound to believe in Rebirth too, because the two are inseparable conceptions. I shall discuss this subject later. For the present moment let us see what further Teachings of the Buddha have been proved by science.

The Buddha's conception, that the universe and all sentient life therein consists of composed matter which he calls Sankhāra and is subject to change, misery and nonselfness, is in perfect agreement with the latest discoveries of science. In the light of modern physics and according to our recent knowledge of atomic energy, the whole universe consists of atoms, each of which contains a proton and a varying number of electrons, which move at a terrific speed sending out various kinds of rays and reacting upon each other thereby causing all matter to change from one form to another without a perceivable break. The whole universe is in a flux; nothing remains the same for two consecutive moments. We find nothing static but only movement and force. The latest calculations by astrologers and the latest discoveries made by astronomy with the help of giant telescopes have led to the conclusion that there are hundreds of worlds or galaxies and the universe seems to be even still expanding! This exactly confirms what the Buddha taught 2500 years ago. But this is not all. The conception of the Buddha, that the world can only be perceived by man through the agency of his Six Senses and only in the form of "Names and Forms", beyond which ordinary human intellect cannot go, is slowly being understood by modern scientists.
Scientists have begun to realise that all the wonderful instruments invented by human ingenuity and science have only given us the means by which the range of our five senses has been greatly enlarged. We can perceive reality only to a limited extent and only within the range of our five senses. We can see the world, so to say, only through small holes, and there is much in the universe that we cannot know by our senses even with the help of scientific instruments.

Scientists have begun to wonder whether it is not possible to sharpen our sensory organs to such an extent as to enable us to see reality still further than with our present techniques and by other means than by our ordinary sense-perceptions. They have therefore turned their attention to psychology.

The fact that there exist extraordinary persons who are clairvoyant and can perceive things not present to the ordinary senses but regarded as having objective reality strongly suggests that it is humanly possible to perceive reality by other mental faculties than by our sense organs.

Furthermore, since Sigmund Freud’s discovery of the “unconscious mind”, it has been established as a fact that persons under hypnosis are able to recall incidents from their early childhood that were completely forgotten in their conscious state. Psycho-analysis, by hypnosis and by other clinical methods, such as by free associations or by inducing sleep by intravenous injections of Sodium Amytal or Pentothal, is today widely practised by the medical profession to diagnose and to cure certain mental afflictions such as psycho-neurosis.

Still further, from so-called age-regression experiments, it has been found that persons under hypnosis are able to relive their childhood and can be made to write their names in exactly the same way they did when they were 10 years or 6 years old. When these age-regression experiments are carried further back to the age of 4 or 3 years they will only be able to scribble some meaningless lines.
Thus modern psychology has scientifically proved that man possesses not only a conscious mind but also an unconscious mind which stores a detailed and successive memory of events lived through since birth.

In the light of modern psychology the Buddha's conception of Rebirth becomes at once more understandable to the Westerner, as there is no reason to doubt that the unconscious mind not only stores the memory of events experienced since childhood but presumably also is the recipient of all past life experience, which means that the unconscious mind contains the residual Karma left over from previous lives.

The Buddha's conception of Rebirth, that at death nothing remains but the Karma left unexhausted in past lives, and that this unspent residual Karma causes Rebirth in another body, would in the light of modern psychology mean that this residual Karma is reborn as the unconscious mind of the new-born.

According to the Buddha, rebirth takes place "When a father and a mother come together, and it is the mother's period, and the 'one to be born' is present." He further taught that "consciousness descends into the maternal womb and not only brings the new being into existence but is also responsible for its growth and further development until consciousness ceases at the moment of death." This consciousness descending into the maternal womb is no other than the consciousness of the "one to be born," created by its residual Karma, which is reborn.

Thus by the time the embryo has grown into an infant and is born, it will have developed a conscious mind which gradually becomes apparent, while its unconscious part remains hidden in the depth of its conscious mind.

The unconscious mind, which presumably is composed of past life Karma influences, directs the conscious mind to act in similar ways as in past lives. According to psychology we act under the influence of what is termed by Sigmund Freud as
"unconscious wishes", dating back to childhood, but presumably also to past lives. Man, however, has a free will of his own; he can by his own free will prevent his new will-actions from being influenced by his past life experiences stored in his unconscious mind. In the same way as the psycho-analyst can cure his patient's childhood anomalies by helping his patient to remember his childhood experiences, the Buddha urges man to practise concentration of mind and self-reflection in order that he may become conscious of his past life experiences and learn from the sufferings imposed upon him by his self-inflicted Karma, so that he may free his mind of the delusion of self, of all passion and attachment to life, and thus become able to attain to his salvation from suffering and rebirth.

Science has by its latest discovery of atomic energy proved the Buddha's Law of Change (Aniccam Dhukkham Anattā) to be a reality. And psychology which has already proved the existence of an unconscious mind, may well one day through age-regression experiments or by some new means of psycho-analysis prove Rebirth to be a reality. The scientific proof of Rebirth would remove the last stumbling block that stands in the way of world-wide recognition of the Teaching of the Buddha. It would bring peacefulness to the hearts of even modern man.

For us, however, there is no need of any scientific proof of Rebirth. Rebirth is a reality; and there are many who can at least remember their immediate past lives. Besides this, the Buddha has taught us the Holy Eightfold Path that leads to the cessation of Suffering and Rebirth. He has led the way and we ought to follow him in good faith.

In conclusion it can be said that the Buddha was the greatest discoverer and scientist of all times. He devoted his whole life to the noblest of all sciences, to the study of human nature. His greatest contributions to mankind were his discoveries of the Law of Change and the Law of Karma and Rebirth. He not only solved the riddle of life, but at the same time pointed out the only way by
which man can master himself and liberate himself from the forces of nature to which he is bound, by following the Path of Enlightenment which leads to wisdom and insight into the true nature of life and to deliverance from all suffering and rebirth.

Science has given us the means by which we may master the forces of nature for our own material gain; but it has utterly failed to contribute anything in the field of morality. Science has no heart. It has no respect for any morality whatever; but the misery of life from which all sentient beings must suffer compels us and makes it our duty to seek our salvation from suffering. And the only way that leads to complete deliverance from Suffering and Rebirth is to attain to highest Wisdom and Insight into the true facts of life. Without morality, science will drag us back into the abyss of the dark ages, and, far from being an evolution of mankind towards higher spiritual realms, it may well mean the regression of mankind to the lowest realm of existence, lower even than the state of animal life. Therein lies the deadly danger of science. Do not let us be too proud of our modern sciences. Man needs more than material gain; he needs spiritual guidance and the Buddha was one of the great Spiritual Teachers of Mankind.