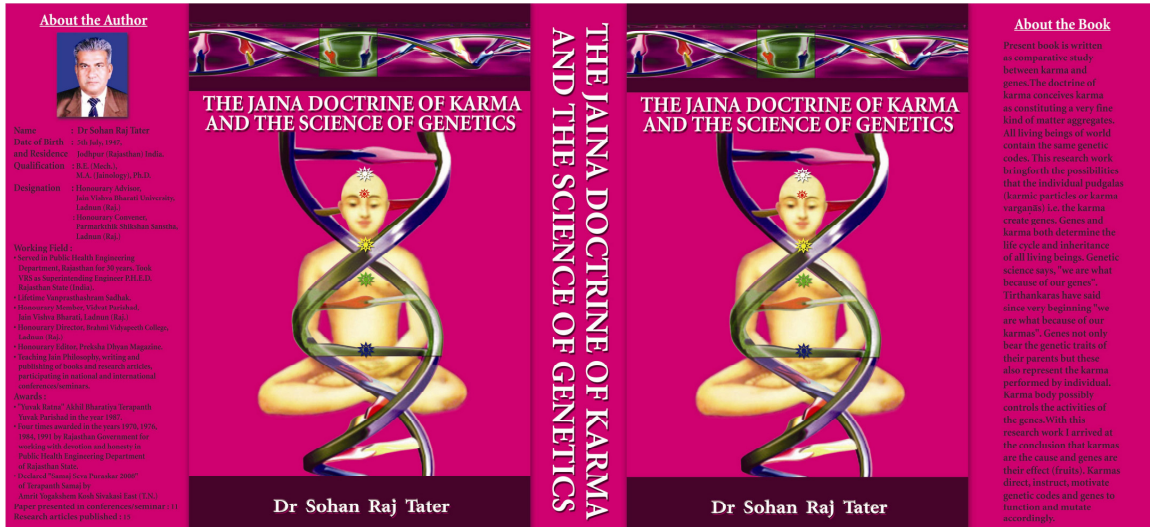


## Commentary on Book

# THE JAIN DOCTRINE OF KARMA AND THE SCIENCE OF THE GENETICS



## 1. Commentary by Prof. Dr M.R. Gelra

The history of investigating truth is very old. Historical and pre-historical metaphysicians, philosophers and modern scientist have incessantly made an effort to know the universal laws of nature. In East, the philosophy and science were not thought to be as altogether unrelated. In west, they remained hostile and polarized. Surprisingly, the modern physicists and biologists have opened up new frontiers of unprecedented human progress to help philosophers to solve their problems. One of the problem is of karma vis-a-vis genetic engineering.

The author of this book Dr Sohan Raj Tater who is mechanical Engineer by profession and a scholar of Jainism has brought forward in his Ph.D. Thesis the comparative studies on genes and karma. This is perfectly a new attempt in this field. The studies on genes are comparatively new and the construction code of genes is yet to be cracked down. On the other hand

there is enormous literature available on karma in Jainism. The author has therefore dealt with genetic engineering and karmic concept of Jainism separately in first two parts and later on compared them. He has succeeded in accomplishing certain linkages in between karma and genes.

According to biological sciences, Gene is a part of chromosome (made up of DNA) and is made of chemical proteins. The word 'chromosome' is made up of two Greek words—chromo (colour) and soma (body). Biologists have established that the coded information is carried from generation to generation by the genes. A group of genes forming chromosomes determine the inherited properties. These chromosomes are the vehicles through which the hereditary qualities migrate from older to the new generation at the time of fertilization.

According to Jainism, the principle of karma, called *karmavad*, is the backbone of entire Jain Philosophy. Karmas are the blue-print of one's past deeds on which the edifice of present can be constructed and the future course can be charted. Karmas carry impressions from one birth to the next. Here we find the interesting part of karma i.e. the effect of karma can be changed by the change of environment. Karmas can be reined in and altered by the right conduct and efforts. Genes also undergo a slow change depending upon the climate, environment, nourishment, health etc. The biologists are very near to alter the genes chemically to obtain desirable characteristics and attributes of an organism. In some cases, they have been successful to eliminate, in-embryo, certain genes, which are carrying the codes of different diseases.

Medical practitioners have only recently being able to answer an age old enigma—the human behaviour is acquired by birth or can be moulded by oneself? Initially, Aristotle and Plato, and later on John Lock and David Hume argued that the Psychology is built up on experiences, while biologists Jean Jacks, Russo and Kent believed that the human psychology as written in the genes is unalterable. Freud stated that the human

personality and behaviour is a total sum of parents, dreams, laughter and sexual activities. France Boise gave the similar statement "Fate and surroundings are responsible factors". In the field of Jainism, the present Jaina Acharya Mahaprajna feels a dire need of confluence between the karma Philosophy and the human Psychology. A correlation between the two can open the flood-gates of exploration of new capabilities and strengths a human mind can possess.

The author Dr Tater has significantly contributed to this idea of Acharya Mahaprajna by presenting this book. This book contains comparative study between karma and genes. Genes not only bear the genetic traits of their parents but these also represent the karma performed by individual. **With this research work author proposed that karmas are the cause and genes are their effect (fruits). Karmas direct, instruct, motivate genetic codes and genes to function and mutate accordingly.** His labour will be fruitful if the readers will continue to explore the behaviour of karma and genes which are parts of spirituality and science. Such studies will certainly fill in gap in between spirituality and science, which is the need of the time.

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## **2. Commentary by Prof. Dr N.L. Kachhara**

The diversity in nature, particularly biodiversity, has always intrigued the human mind. We see and appreciate diverse living creatures on Earth but do not exactly know the reason for their existence. Many philosophers and thinkers world over, and India in particular, made this diversity the subject of their deep enquiry and found explanations. The inner power of enquiry provided deep insight into the subtle world which was found to regulate the

events in the outer physical world. Our sensual perceptions reach only the outer surface that is temporary and transient, the real substance within is permanent and transcendental. This permanent substance, the soul, is the source of power of every living creature. The discovery of soul may be regarded as the biggest discovery the humankind has ever made.

One school of thought in Indian believed that the soul of an organism is a part of a universal soul, the creator. The soul has individual identity in the embodied state but once liberated it unites with its source, the creator. There is another school of thought, which believes that every soul is independent and is responsible for the fruits of his actions. A cause and effect law operate in every soul and no interference of any outsider, howsoever powerful, is possible. *Lord Mahavira* belonged to the second school and he called this law of soul as the doctrine of karma. In order that the soul experiences the effect of a cause a record of the event making the cause is essential. The record keeping is made possible through a subtle *karman* body. This body made of *karman vargana* always remains attached to the soul like a faithful companion. It keep record of all actions and thoughts of the soul performed in different bodily existences. These is no way to access this information from outside, the soul is the sole and only manipulator.

The information in the *karman* body is stored in the form of karma which obscure the soul. All transactions with the outside world are made through the *karman* body. The soul, in a way, is imprisoned and controlled by karma. Thus a record center of power comes in existence. This, however, should not be concerned to mean that the soul has lost his power. The soul is powerful enough and may exercise his power at appropriate moments breaking the barriers of karma. Normally the soul remains under the influence of karma, looses its identity and enjoys the fruits of his actions. But when awareness of identity is aroused, the soul expresses his power and crushing the karma strives for his free existence.

The karma inhibit the natural attributes of the soul. The pure soul has infinite knowledge, infinite power of perception, infinite bliss and infinite energy. All those powers are bound by limits in an impure embodied soul. In other words, the limited abilities of an organism are due to the presence of karma. The consciousness, a property of the soul, is also obscure by karma. Only a limited consciousness is expressed in the embodied soul. As karma reduce greater part of consciousness is expressed and the abilities of the soul increase. The intelligence, perception happiness, power of action and judgement and other attributes are dependent on karma. There is an inbuilt mechanism by which karma operate and exercise their influence on the physical body.

The scientific investigations are limited to the physical body. The body is made up of cells, the smallest living unit of an organism. The discovery of DNA and genes in the nucleolus of the cell made in the last century is a landmark in human history. The structure of DNA and the constituent genes represents a world in itself. The DNA molecule has parts known as chromosomes and each chromosomes has thousands of genes, the basic physical and functional units of heredity. Genes are specific sequences of bases that encode instructions on how to make protections. The genome is an organism's complete set of DNA. The human genome has about 3 billion base pairs and about 30,000-35,000 active genes. Genes comprise only about 2 percent of the human genome, the remainder consists of non-coding regions, whose functions may include providing chromosomal structural integrity and regulating where, when and in what quantity proteins are made. The genetic code has been compared to a blueprint specifying the design of an organism. In fact the genetic code specifies not only the design of an organism but provides for the mechanisms needed to "read" the code and manufacture the components of the organisms as well as specifying the procedures needed for the life processes of the finished organism.

Studies in behavioural genetics have shown that both genetics and environmental factors influence the normal and deviant behaviour of human beings. Only a few decades ago, psychologists believed that characteristics of human behaviour are almost entirely the result of environmental influences. These characteristics now are known to be genetically influenced, in many cases to a substantial degree. Intelligence and memory, novelty seeking and activity level, spirituality, and shyness and sociability all show some degree of genetic influence.

We thus have two kinds of determinants of body processes and behaviour of organisms, the karma and the genes. The obvious question is what is the relation between these two seemingly diverse systems performing similar functions. A comparative study of karma and genes can throw much light on this important aspect of life. The author of this book Dr Sohan Raj Tater has embarked upon this important task and has presented valuable information on both the doctrine of karma and genetic science. In the first part of the book he introduces the doctrine of karma as known to Jain philosophy. He dwelves upon the concept of karma in various Indian philosophies in the first chapter. He than describes the concept of life in Jaina philosophy in the second chapter. He goes on to describe the classification, bondage, fruition and annihilation of karma in the next four chapters. This provides a fairly good coverage of the doctrine of karma and the readers are furnished the essential details of the doctrine which finds elaborate descriptions in Jaina canons.

The second part of the book presents the developments in genetic science in brief but systematic manner. The science of heredity and genes is first introduced. The next chapter deals with the cell, the smallest unit of life. The information about DNA, RNA, and gene mutation is provided in the next two chapters. The important aspects of genetic engineering are covered in the following chapters. **In the third part of the book the author Dr Tater makes a comparative study of karma and genes and brings out**

**the important fact that karmas are the cause and genes are their effects. This is a very significant inference of the study. The genes and the environmental factors are known to regulate and control the anatomical, physiological, biological and behavioural aspects of organism and karma control the genes. This finding has important repercussions both for Jain philosophy and science.**

The life is not just an assemblage of atoms and molecules, its existence is much deeper. Atoms and molecules do have some ability to organize themselves, such as formation of crystal like structure, but they fail to produce any intelligent structure useful to life. **Scientists have so far not succeeded in synthesizing a cell in the laboratory. A cell is an intelligent structure and cannot be formed without the assistance of consciousness which is the source of intelligence. The study of life shall be incomplete without understanding the role of karman body and luminous body.**

Is there any scientific evidence of the existence of subtle bodies? Scientists have found emission of a weak light, called bio photons, in all living organisms. The bio-photons, originating from a coherent electromagnetic field, regulate and control the whole bio-chemistry and biology of life. Many significant correlations between features of bio-photons and number of fundamental biological processes, such as cell divisions, death, and major shifts in metabolism have been found. Biological processes may be integrated by the endogenous bio-electro magnetic field that has a primary organizational and informational role. Scientists are not sure of the origin of the coherent electromagnetic field in living organisms. According to the Jain philosophy the organizational and informational roll is played by the karman body. This indicates a possible connection between the coherent electro-magnetic field and the karman body. This may prone to be a big lead for science to enter the realms of subtle bodies. A comparative study of genetic science and bio-photons may force the scientists to search for the source of intelligence. However, the science has a long way to go before it

gets closer to consciousness and this journey in the subtle world may find help in Jaina philosophy.

Jaina philosophy does not provide details of nature like science but offers a conceptually strong background of both the living and non-living world. A dialogue between Jaina philosophy and science is expected to seek new heights in the quest of human mind. The publication of this book on comparative study of doctrine of karma and genetic science is a right step in this direction.

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