

# DOCTRINE OF KARMA AND MODERN SCIENTIFIC DISCOVERIES

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## ASSOCIATION OF SOUL AND KARMA

*Jīvas* (spirit/soul) are conscious formless beings. The subtle filth glued to it is called *karma*. *Karmas* are inert material atoms. The atoms of *karma* are called *karmadala* (atom groups). The atoms of *karma* get glued to the soul owing to its adhesiveness caused by attachment and hatred and activities of association. The *karma* atoms are glued to the soul from time immemorial. If some of them get dissociated from the soul, the new ones get glued. Thus, this activity goes on constantly. The soul acquires the property to attract *karma Vargaṇā* because of false belief, vowlessness, negligence, passions and activities and that is *karma*. *Karma Vargaṇā* is a kind of subtle dust which can be perceived only by an omniscient individual.

Every worldly soul happens to be confined (not free). The imprisonment is due to the bondage of *karma* (*bandha*). Inflow of *karma* is due to *āśṛava*, the stoppage of inflow is due to *sanvara* and the eradication of *karma* is due to *Nirjarā*. *Jīva* can shed the *karmas* and purify his soul with the help of austerities.

*Karma* is not an autocratic dominion. It has also a check on it. Changes can be made in *karmas*. Lord Mahāvīra says, "performed *karma* will give its fruits," is a general principle, but there is an exception to it. In *karmas*, *Udīrṇā* (to attract premature *karma*), *Udvartana* (lengthening of *karma* period), *Apavartana* (shortening of *karma* period) and *sankramaṇa* (changing nature of *karma*) all these stages are possible, and changes can be introduced in the *karmas*. Thus, we can say that due to self-exertion eradication of *karmas* can be done even before their maturity. Their duration and intensity can be minimized or maximized and one nature of *karma* can be changed with other subgroup of the same nature. The *karma* which has come in rising, their reward can be subsided for a time, they can be made incapable for a certain period in their reward. This process is called "*upaśama*."

Where there is soul and *karma śarīra*, life will take birth. Every living organism is built of a number of cells. Where there is cell, means life is there. A cell is made up of genes. That means, where there are genes, life is there. Soul generates life with the help of *karma śarīra*. *Karma śarīra* plays its role in the gross body of a living organism with the help of genes only. Thus, we can say life is a composite building up of soul, *karma* and genes. Without the soul, *karma* and genes cannot survive more in gross body of living beings and vice-versa. Thus, life cannot be survived without the common efforts of *karma* and genes. So we should compare life with genes, i. e. to compare *kar ma* with genes.

Concept of *karma* resembles the concept of gene in all its functions. Rather the concept of *karma* goes one step ahead in the sense that apart from transporting the hereditary influences over many generations of both the parents, it also takes into account the effect of individual performances in the previous births. Probably, further studies in the field of Genetic Engineering may break upon a new era in the field of transmigration of soul striving for ultimate state of liberation.

Every cell of a multi-cellular organism contains same blue print of organism but in different type of cells, i.e. skin cell, nerve cell, bone marrow cell, genes operate in different way according to body requirement. These genes are directed by the rising *karmas* to operate according to body requirement, nature, duration, intensity and quantity of *karmas* in rise. With the processes of genetic engineering, we can switch on and off the desired working of genes.

## **CORRELATION BETWEEN KARMA AND GENES**

In psychology, the difference between the living organism (*jīva*) and life is very specific. The study of *karma* theory makes the difference quite clear. Heredity is related to life, in the same way *karma* is related to *jīva*, in which all the *karmas* and reactions of so many pre-births are accumulated in the form of *karma śarīra*.<sup>1</sup> So the individual's ability and extraordinary talent based not only on present life, it can be traced out beyond it in the accumulated *karmas* bonded with *jīva* i.e. *karma śarīra*.<sup>2</sup>

Biology believes that the important component of the body is gene. It is the characteristic formula, it is very subtle. Its subtleness is merely a hypothesis. Where does our consciousness reside? Whether it is present in chromosomes or genes? That is why,

so much difference is there from man to man. Everyone's self-exertion and consciousness are not the same. As per the doctrine of *karma*, the cause of this dissimilarity is due to "*karma*."<sup>3</sup>

Once Gandhara Gautama asked Lord Mahāvira:<sup>4</sup> *kammoṇan bhante jīve no akkammaō vibhakti bhavan pariṇamaī*. There appears dissimilarity in whole world, some possess less knowledge and the other possess more. What is the reason for this? Mahāvira replied, "*Karma* is the cause of this dissimilarity." If a biologist of today is asked this question, he will reply that the root cause of all dissimilarity is "gene." The characteristics of genes and chromosomes determine the human personality. His temperament and behaviour becomes the same as the genes are. This gene is responsible for all dissimilarities.<sup>5</sup> As per biology, every gene contains sixty lakhs orders in it. As per the doctrine of *karma*, on every *karma* particle written infinite instructions.<sup>6</sup>

Now science has reached only upto the genes. It is the component of physical body, but *karma* is the component of subtle body. Inside this physical body lies astral body—the electric body which is subtle and *karma śarīra* which is subtler than that; it is the subtlest. It's every part has infinite inscriptions. All records of our self-exertion, of goodness, of bad works, of limitations and of specialties are inscribed in the *karma* body. Man behave according to vibrations received from *karma śarīra*. The theory of *karma* is very subtle. It is the theory beyond the subtle intellect. Science of the genetics has helped us in understanding this theory of *karma*.

Genes are the transporters of heredity characteristics.<sup>7</sup> The difference, perceptible in every man, is due to the *genes*. For every special characteristic, a special type of gene exists. These laws of heredity are the messenger laws of *karmavāda*.<sup>8</sup> The travel from the physical body to the subtle body is very important in itself. This body is physical, and it is made of subtle biological cells. There are about 100 trillion cells in human body. If these cells are understood, according to the Jaina Philosophy, that at the point of a needle, infinite *nigoda jīvas* be accommodated there.<sup>9</sup> Nigoda is one of the species of vegetation. It is a subtle thing. But the present science also postulates many subtle concepts. There exist trillions of cells in our body, and they contain the chromosomes, and every chromosome is made of one-two thousand genes. There are 46 chromosomes in one cell in our body which are made of genes. Genes are very subtle.

If a comparative study is made—the heredity, genes and all the chemical changes all three are the doctrine of *karma*. Gene is the component of our physical body, and the *karma* is the component of our subtler body (*karma śarīra*). Both are related to the body. *Ācārya Mahāprajña* says that genes not only transport the traits of parents, but they also represent our bonded *karmas*.<sup>10</sup>

## **PARAPSYCHOLOGY**

The parapsychology comes closer to find the answer as to what is behind genes. They claim that we have an unconscious mind and a subconscious mind. As per Jainism, the unconscious mind is *karma śarīra* and the sub-conscious mind is *taijasa śarīra* (*leśya* and *bhāva* are produced by *taij asa śarīra*). They talk about things that are controlled by other than the senses. They talk about ESP (Extra Sensory Perception), telepathy (sending thoughts/feelings from one person to another), Clairvoyance (awakening of objects or things without the use of senses), pre-recognition (knowledge of future events) and psychokinesis (the power of mind over matter). *Avadhi jñāna* (knowledge limited by area, time and feelings), *manahparyava jñāna* (knowledge of other's thoughts) and *kevala jñāna* (perfect knowledge), these three knowledges are not dependant on our senses and mind. *Karma śarīra* and its effect on our soul are behind every thing. Similarly, *karma śarīra* is behind genes also.<sup>11</sup>

## **GODE GENE**

The spirituality gene (VMAT2 or God gene) gets activated when a person feels inner need for God and devotes himself/herself whole heartedly to spiritual pursuits. When young Vivekananda requested Ramakrishna to pursued Goddess Kali to give him wealth, the sage advised him to ask the goddess directly. Facing the goddess, Vivekananda asked for wisdom and enlightenment instead. What could have promoted the young man to desire enlightenment and not wealth? In the light of genomic findings, we may see that he was promoted to do so by the spirituality gene.<sup>12</sup>

## **KARMA PLAYS ROLE THROUGH GENES**

Is there a possibility that the psycho – somatic effect of committing a sin or crime can cause an epigenetic change in a person and whatever the consequence of that change will get transmitted to his or her offspring? So far no scientific evidence can be provided for that possibility. Perhaps "*karma*" will prevail over dogma. Such misperception of

genetics sounds—strange as this might seem at first—like the common use of the Sanskrit term "*karma*" often defined as the "law of cause and effect." Both *karma* and genetics are frequently used to refer to something predestined fate. "But *karma* provides the situation, not the response to the situation," according to Śambhālā dictionary of Buddhism and Zen. Further under the title "*Karma*" in another book by the same publisher says; "Future conditions depend on what we do in the present, substitute "genetics" for "karma".<sup>13</sup>

### **GENES ARE BECAUSE OF YOU AND NOT VICE-VERSA**

The extract of Jaina Philosophy, in the form of formulas, has been given in "*Tattvārtha Sūtra*." If these formulas are analyzed in the light of cell, nucleus structure, *genes* and genetic codes provide us a new vision, and it clearly appears that *karma*, in one or the other way, is certainly attached to these controller units— the *genes*. Every cell has a nucleus, the nucleus possesses the chromosomes which are made of DNA.

The structure and function of body of every living being is according to their chromosomes. In conducting life, at every stage, protein of one or other type is necessarily required and its formation is only done by some specialized *genes*.<sup>14</sup> These *genes* are ever changing and this change is called "mutation." According to mutation, the changes happen in the characteristics of every living organism. In this way, all the activities of a creature, its destinies, its forms, according to the "Jaina Doctrine of karma," are decided by karmic particles (*karma*) and according to biology, are decided by genes. **According to this research work, *karmas* are the cause and genes are their effect (fruits). *Karmas* direct, instruct and motivate genetic codes and *genes* to function and mutate accordingly.**

Every creature gets the different types of body according to its bonded *karmas*. It is only due to the consequences of *karmas*, one is born blind, sans intellect, some remains dwarf (short structured) and other is quite tall, some is born with fair and the other with dark complexion, and these are all done by the *genes*. Only due to the *genes*, the structure of the body of creature takes place and certain *genes* also decide the gender of a living being like man, woman or eunuch. The fundamental compounds of genetic code— glucose, phosphate and alkalines finally having in alliance with elements like nitrogen, carbon, hydrogen, oxygen, etc. and make the genetic codes. These elements pervade in

our environment. This research work brings the possibilities that the invisible *Pudgal as* (*karmic* particles), i.e. the *karmas*, create the genes.<sup>15</sup>

### **EFFECT OF KARMA OVER GENES**

When the living organism performs the various activities, it attracts the *karmic* particles all around it. According to one theory of physics, all inert matters, due to their present heat, radiate the electromagnetic rays. When any creature (*jīva*) is attracted towards anything living (animate) or inert (inanimate) the living being (*jīva*) according to the intensity of his/her passions and yoga, adjusts clock frequency equal to the frequency of that thing, such condition is called the stage of attraction. In this state of intense attraction, the creature (*jīva*) and the matter (*pudgala*) different frequencies pass through any matter, its effect is marked in holograph form in that matter. Similarly, due to its attachment and aversion, the holograph is imprinted on the soul of creature (*jīva*) in positive or negative charge.<sup>16</sup>

Even the modern scientists have begun to believe the presence of invisible fine matter particles around human body. Those particles are *karmic* particles, i.e. *karma vargana*, which ultimately become *karma* when attracted by *jīva* due to its activities.<sup>17</sup> The way in which radioactive elements keep on radiating the rays for millions or billions of years very slowly. Similarly, the *karma* particles radiate special types of rays. It should be understood here that the changes in living beings (*jīva*) occur mainly due to these radiating rays.

### **KARMA AND GENE**

All the characteristics of every living organism are carried by its chromosomes in the form of genes. These chromosomes are packed in the cells and the body is formed by many cells put together. So in every cell similar type of genes exist, but at the same time it is necessary that some genes should remain inert and some active during a certain time. This process is very complex.<sup>18</sup> It is believed that in developed complex creatures (*jī vas*), during a certain time only, upto 2-15 per cent genes remain active.<sup>19</sup> How the various creatures (*jī vas*) function under whose control? This research work supposes that the creature's active or inactive state, the *karma* particles (*karma*) are the only cause for it.

Keeping the genes active or inactive is done by hormones, vitamins, minerals, chemicals and immune system.<sup>20</sup> It is believed that the genes are controlled by the

environment around it, cell nutrition wrapped around the genes, and the temperature of the light.<sup>21</sup> Thus, genes are the deciding factors for the various characteristics of a living organism (*jī va*) and genes are controlled by some known or unknown causes and these causes are certainly the karmas of an individual.

### **CHANGE OF MODES, RE-BIRTH AND GENETIC CODES**

The nucleus of cells and the existing chromosomes and the genes thereon (which are formed by meeting of genetic codes) control the various activities of the organism (*jī va*) and on these genes and genetic codes, the *karma* waves exercise its definite control and regulate the life. There is an interesting fact here that all big or small subtle creatures or plants contain the same genetic codes.<sup>22</sup> Thus, right from amoeba to man, the life deciding fundamental genetic codes are the same. So the theory of rebirth gets force from this principle of same genetic codes.

Perhaps the *karma* particles controlling the genetic codes regulate them for the next birth/modes and give them such a serial system that the soul migrate in search of further body, having left its own body. According to the *karma* reward, genetic codes and fate, soul reaches such a body and place and further develop it. This can be interpreted that *karma śarīra* of that nature is formed which can easily fit in such created genetic codes and the soul begins a new life in the new body. Again, having the genetic codes of a living being—a cow, a lion, an insect, a bird, or any form of creature can be created.

So on the basis of the study of biology, it appears that every control on the life of every creature is conducted by the genes and the genetic codes. It is this *karma*-body, which perhaps controls the genes and gives favourable or unfavourable results and decides the forthcoming body. If this hypothesis is tested in a laboratory, it will be found that man's thoughts and actions attract such atoms around him which further give him happy or tragic results. Telepathy and Reiki therapies have given such results. Through these therapies, one man's thoughts are conveyed to the other man and affect the other man to a great extent. Research done in this direction will be able to prove this biological hypothesis. This theory will help us lead a happy, contented and balanced life and a new happy contented society will come into existence.<sup>23</sup>

One germplasm contains many chromosomes. These chromosomes have genes. In fact, only the genes are the messengers of virtues and vices, they are the cause of virtues

and vices. According to genetics, every embryo contains 23 chromosomes of father and 23 chromosomes of mother.<sup>24</sup> The biologists guess that due to the meeting of these all chromosomes-16, 77, 216 kinds of various similarities are expected.<sup>25</sup>

Till now the science of genetics has reached only upto genes. It is one of the component units of this gross body, on the other hand, karma is one of the component of our subtle body. Inside this gross body (sthūla śarīra) resides the astral body (taijasa śarīra). The more subtle is the karma body, and it is the most subtle body.<sup>26</sup> At every limb of this most subtle body is written the account of our self-exertion of our virtues and vices, of our limitations and of our reactions. The human starts behaving according to the vibrations coming from karma śarīra. Ācārya Mahāprajña writes, "the genes not only bears the genetic traits of its parents, but these also represent the karmas performed by the individual."<sup>27</sup>

One scholar tells us that the controlling elements of our body have been found out and it seems to be a great achievement. Today, through the genetic mapping, all the genes have been found out which control the various states of our traits. We have also discovered all the sequences of genes set up, and everyday new researches in this field are revealing new knowledge about the genes. A group of researches led by Paul Thomasan of the University of California of Los Angles has given clear evidence that intelligence is largely determined before birth.<sup>28</sup> Still the whole puzzle, regarding all the traits of human beings, has not been fully solved. But the Jaina *karma* theory—describes elaborately about the *karma* particles—and these *karma* particles determine not only the characteristics of the body of *jīva* but also its happiness, sorrow, perception, age and *gotra* are also decided.<sup>29</sup>

Thus, the genes and genetic codes to which the scientists are considering supreme of all are the only particles functioning under the *karma vargaṇās*. It requires a great research because while science has stopped only on body characteristics, on the other hand, the doctrine of *karma* has gone far ahead of it. Genetic science states that they have found out only those atoms which determine our characteristics, but the doctrine of *karma* goes upto the *kārmaṇa* body and describes many more characteristics. The doctrine of *karma* also describes how *āsṭava karma* sticks to soul and how *āsṭava* can be

detached from soul. It also says that the unwholesome *karmas* can be removed by austerities and the state of joy can be achieved.<sup>30</sup>

It is sure that mental as well as intellectual merits of genes are necessarily affected by a man's prebirth internal state, i.e. nature, and also by the after-birth, outer environment such as air, temperature, light, moisture, nutrition, etc., i.e. nurture.<sup>31</sup> If two identical twins are kept separately in the outer environmental conditions, their body structure, their personality and mental characteristics will greatly differ from each other. Whereas both have the same genome structure and similar development of the embryo. These two identical twins, in spite of having similar internal and outer environment, their original form will differ. These factors clearly indicate towards *karma*—the controlling factors and existence of soul. After a thorough research of Jaina Theory of *Karma*, the described consequences may be achieved.<sup>32</sup>

### **THE SCIENTIFIC COMMUNISTIC THOUGHT OF JAINISM**

According to the modern anatomy, all creatures have the same genetic codes—fundamental building blocks of life.<sup>33</sup> It is only due to the mutation of the genetic codes, different types of species of creatures—right from amiba to man, take birth. Thus, the doctrine of Jaina *karma* believes that all the *jīvas* are possessed with similar soul and similar capacities but their different *karmas* provide them different bodies.<sup>34</sup>

First of all, it should be made clear that every incident does not occur only due to *karma*. *Karmas* are not all in all. If we believe that whatever happens is subject to *karmas* only, it will be such an explanation that the thiest (believer in God) says that every thing happens only due to the command of God or all that happens is subject to fate (fate or pre-destined), we cannot introduce any change.

If *karma* is believed to be all in all, there will be no room for self-exertion to eliminate them nor there will be any possibility for achieving salvation (*mokṣa*), because—as the *karmas* are done, so do they rise and reward the doer, and he or she will act according to them and bear further bondage of *karmas*. If it is so, then the thought of self-exertion and salvation will prove wrong. Thus, it is proved that *karmas* are not all in all.

*Karma* is not an autocratic dominion. It has also a check on it. Changes can be made in *karmas*. Lord Mahāvīra says, "performed *karma* will give its fruits," is a general

principle, but there is an exception to it. In *karmas*, *Udīrṇā* (to attract premature *karma*), *Udvartana* (lengthening of *karma* period), *Apavartana* (shortening of *karma* period) and *sankramaṇa* (changing nature of *karma*) all these stages are possible, and changes can be introduced in the *karmas*. Thus, we can say that due to self-exertion eradication of *karmas* can be done even before their maturity. Their duration and intensity can be minimized or maximized and one nature of *karma* can be changed with other subgroup of the same nature. The *karma* which has come in rising, their reward can be subsided for a time, they can be made incapable for a certain period in their reward. This process is called "*upaśama*."

According to Ācārya Mahāprajña "The theory of *sankramaṇa*," is the theory of mutation of gene. One important thing worth paying attention is that the rise of *karma* takes place according to substance, area, time, mode and state of living being. This rise depend upon medium and rewards accordingly. Let the pain-causing *karma* rise at the same time in two different persons, and one person listens to the religious sermons and devotional songs, the other one is kept in a closed room doing nothing. The pain causing *karma* will cause more pain to the second person in comparison to the first person who spends his time in listening to the religious sermons and devotional songs. There is a psychological reason of it also.<sup>35</sup>

Thus, we reach the conclusion considering all the above facts that in building personality, *karma* is not all in all, but heredity, environment, geographical location and ecological conditions all effect nature and behaviour of man. *Nāma karmas* are not all in all. In facial and body formation of man, effect of the place and time can easily be perceptible on human physique. If two children are born to a mother—the one in some cold country and the other in some hot country, the child born in a cold country can comparatively be more fair than the other child. If some person begins to live in a cold country, his complexion will change. According to Ācārya Mahāprajña, the change of genes and the chemical changes bring change in human personality.

*Āyusya karma* is also a *karma*. But the outer mediums like poison etc. can minimize life span of a creature. Similarly, if some change is made in chromosomes and genes, a person's physique can be changed. Thus *nāma karma* alone does not decide human physique but environmental conditions can bring change in human physique. If

we produce carbon copy of donor parent (i.e. clone) by changing nucleus of the cell by a special scientific method, the theory of *karma* is not violated because *Sankramaṇa* is possible in *karmas*.<sup>36</sup>

## **FUNCTIONS OF GENES ON ALL 24 CHROMOSOMES**

The principal role of genes in all the 24 chromosomes of human has now been identified.

**Chromosome 1:** *Genes* in chromosome one contains the record of past lives. This can be compared with *Kārmaṇa śarīra nāma karma*.

**Chromosome 2:** *Genes* in chromosome two contains the history of journey leading to human life. It has details of birth in various species we lived before. It is comparable with *gati nāma karma*.

**Chromosome 3:** Contains evidences for the entire past history in the form of genes. This is comparable with *Āyuṣya karma*.

**Chromosome 4:** Genes on chromosome 4 contain information about our future. This is also comparable with *Āyuṣya karma*.

**Chromosome 5:** Genes on chromosome 5 are very sensitive to environment and contain information about our immune system. This is comparable with body *nāma karma*.

**Chromosome 6:** This is the intelligent chromosome. Genes over this chromosome are the basis of our intelligence. It has been shown that in some cases intelligence is hereditary. This is comparable with *jñanāvarṇa kṣyopasāma* state of soul.

**Chromosome 7:** Genes over chromosome 7 contain those characteristics which determine our behaviour as human being. This is comparable with *gotra nāma karma*. (*Uccagotra* and *nīcagotra*)

**Chromosome 8:** Genes over this chromosome contain information about our liking and choices. Our habits and natures are stored and transmitted to next life. This means that our merit and demerits are also influenced by hereditary factors i.e. genes. This is comparable with *sātā* and *asātā vedanīya karma*.

**Chromosome 9:** The genes of chromosome 9 determine the blood group. This can be compared with body *nāma karma*.

**Chromosome 10:** This chromosome contains the gene CYP17, which produces an enzyme that converts cholesterol into hormones called cortisol and testosterone. These hormones produce stress in the body. This is comparable with *asātā vedanīya karma*.

**Chromosome 11:** This contains genes, which influence our personality. This is comparable *gotra nāma karma*.

**Chromosome 12:** Genes of chromosome 12 are self assembled. This is responsible for mental retardation. This can be compared with *jñānavarṇa* and *asātā vedanīya karma*.

**Chromosome 13:** Genes of this chromosome store characteristics of past lives. This is comparable with *Āyusya karma*.

**Chromosome 14:** The genes of chromosome 14 are of indestructable nature and are responsible for brain diseases. This can be compared with *asātā vedanīya karma*.

**Chromosome 15:** The genes of chromosome 15 determine male and female gender. This can be compared with *puruṣaveda* and *strīveda nokaṣāya mohanīya karma*.

**Chromosome 16:** The genes of this chromosome contains memory. This is comparable with *darśanāvarṇa karma kṣyopāśama* state of soul.

**Chromosome 17:** Genes of this chromosome decide the life span. This is comparable with *Āyusya karma*.

**Chromosome 18:** The genes of chromosome 18 help in recovery from illness. This can be compared with *Sātā vedanīya karma*.

**Chromosome 19:** This chromosome decides fertility. This can be compared with *puruṣa* and *Strīveda nokaṣāya mohanīya karma*.

**Chromosome 20:** The genes of chromosome 20 destroys immunity. This can be compared with *asātā vedanīya karma* and *body nāma karma*.

**Chromosome 21:** Genes of this chromosomes produce diseases in body. This can be compared with *asātā vedanīya* and *body nāma karma*.

**Chromosome 22:** Genes of chromosome 22 characterize freedom of thoughts. This is comparable with *jñānavarṇa karma*, as well as *kṣayopāśama* of the soul.

**Chromosome 23:** The genes of chromosome 23 produce muscle degeneration. This is compared with *body nāma karma*.

**Chromosome 24:** This chromosome is governed by the SRY gene of testis—determining factor. This leads to testicle development. This can be compared with *puruṣaveda nokaṣāya mohaniya karma*.<sup>37</sup>

## CONCLUSION

The law which regulates the doctrine of karma is based on the principle of "Cause and effect". The saying "as you sow so you reap" present the whole doctrine in a nutshell. Every action, whether mental, vocal or physical, is a sowing of the "seed", or in the technical language of Jaina Philosophy the engendering of karma. In the act of sowing the seed or engendering the karma, the soul has the choice of acting or retaining from action, but once the seed is sown or karma engendered, its freedom is replaced by an inevitable liability to bear its consequences. This is what constitutes the bondage of soul. **Karma, therefore, is a kind of force, which compels the soul to bear the consequences of its right or wrong actions, and this force originates in the very action itself, which is performed by the soul and at the very moment of its performance.**

We are basically made up to cells. Every cell has a nucleus and cytoplasm. Nucleus has chromosomes. Each chromosome has many genes. Genes are made up of DNA molecules. Our vital activities are governed by the genes. No two persons are similar in their genetic constitution. We work differently because of our difference in genetic constitution. The activities of genes are governed by the environment. It is the environment which modifies the expression of genes of the individual. Therefore if a "bad" individual is put up in "good" environment, his bad activities (*papa karma*) will be reduced to some extent and vice-versa, so the role of environment is equally important for the "*papa karma*" and "*punya karma*" activities of the individuals.

**The doctrine of karma conceives karma as constituting a very fine kind of matter aggregates. All living beings of world contain the same genetic codes. This research work bring forth the possibilities that the individual pudgalas (karmic particles or karma varganas) i.e. the karma create genes. Genes and karma both determine the life cycle and inheritance of all living beings. Genetic science says, "we are what because of our genes. Tirthankaras have said since very beginning "we are what because of our karmas". Genes not only bear the genetic traits of their**

parents but these also represent the *karma* performed by individual. *Karma* body possibly controls the activities of the *genes*. With this research work I arrived at the conclusion that *karmas* are the cause and *genes* are their effect (fruits). *Karmas* direct, instruct, motivate genetic codes and *genes* to function and mutate accordingly.

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