

Quotations From Scriptures:

*Selections From Acharya Umasvati's TATTVAARTH SUTRA<sup>1</sup>*

Introduction

Acharya Umasvati's TATTVAARTH SUTRA presents a systematic and comprehensive view of the seven aspects of reality, relating to the basic principles of Jainism. The seven aspects of reality (TATTVAS) are: souls (JEEV), inanimate entities (AJEEV), influx of karmic matter towards soul (AASHRAV), bondage of karmic matter to a soul (BANDH), stoppage of influx of karmic matter (SAMVAR), shedding of karmic matter (NIRJARA), liberation of soul from karmic bondage (MOKSHA).

The fifth chapter of the TATTVAARTH SUTRA describes the inanimate entities (DRAVYAS) of the universe that include matter (including energy, PUDGAL), principle of motion (DHARM), principle of rest (ADHARM), space (AAKAASH) and time (KAAL). Certain concepts regarding the soul that relate to the inanimate entities have also been presented in this chapter. It should be pointed out that some facts about matter delineated in this chapter correspond to modern scientific concepts.

Chapter 5

Continued from April 2008 issue:

**Definition of entity:**

SADDRAVYALAKSHANAM [5-29]

Existence is the quintessence of an entity.

That which exists is defined as an entity. The infinite number of individual souls, variety of matter (including energy), space, principle of

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<sup>1</sup> Based on the following commentaries on TATTVAARTH SUTRA:

TATTVAARTH SUTRA by Acharya Umasvati, commentary by Pandit Sukh Lal Sanghvi, English translation by K. K. Dixit, published by L. D. Institute of Indology, Ahmedabad, 1974.

TATTVAARTH SUTRA by Acharya Umasvati, commentary by Pandit Phool Chandra Siddhantacharya, published by Varni Granthmala, Varanasi, 1949.

TATTVAARTH SUTRA by Acharya Umasvati, commentary by Pandit Mohan Lal Shastri, published by Saral Jain Granth Bhandar, Jabalpur, 1983.

Reality, English translation of Acharya Pujya Pad's SARVAARTHASIDDHI by S. A. Jain, published by Vir Sasana Sangha, Calcutta, 1960.

'That Which Is', a commentary on TATTVAARTH SUTRA by Dr Nath Mal Tatia, published by Harper Collins, 1994.

Cosmology: Old and New by Prof. G. R. Jain, published by Bharatiya Jnanapith, New Delhi, first edition, 1975.

motion, principle of rest and time are the six entities that comprise the universe. Each entity possesses certain characteristic attributes and it undergoes transformations according to its attributes. These constitute the laws of nature, which are responsible for the evolution of the universe.

***Attributes of existence:***

UTPAADAVYAYADHRAUYAYUKTAM SAT [5-30]

Attributes of existence are permanence with respect to intrinsic attributes, while origination and annihilation with regard to modifications.

Existence implies permanence with respect to intrinsic attributes, and, origination and annihilation with respect to modifications. Annihilation implies destruction of the present state (mode or form) and origination entails the inception of a new state (mode or form). In these processes, the innate characteristics of the substance such as existence and the quality of being substantial remain invariable. This is the aspect of permanence. For example, a piece of coal burns and turns into ashes. In this process, the lump of coal is depleted and powdered ashes are formed. These constitute annihilation and origination, respectively. However, the element carbon remains permanent.

The above concept of entity in Jain philosophy precludes the need for creation and Creator. The entities of the universe are eternal and permanent from the point of view of intrinsic attributes. Thus they cannot be created out of a void. Only transient forms can be created or destroyed. All entities are eternal. Their quantities remain constant. One entity cannot be changed into another. The entities are formless except for matter and energy (PUDGAL). When matter (including energy PUDGAL) interacts with matter, or when soul and matter interact with one another, transformations of states take place. This principle of permanence of the Jain philosophy can be related to the law of indestructibility of matter of modern science as defined in the eighteenth century by the famous scientist Lavoisier in the following words: Nothing can be created and in every process there is just as much substance (quantity of matter) present before and after the process has taken place. There is only a change or modification of matter.

***Definition of permanence:***

TADBHAAVAAYAYAM NITYAM [5-31]

Permanence pertains to the innate nature (TADBHAAV) of entities, which implies indestructibility of essence and attributes of respective entities.

The universe including all the entities is eternal (everlasting) as far as the innate nature of the entities is concerned. However, from the point of view of the continual transformations that occur in the universe, it is evanescent (impermanent). These represent the essential nature of the universe. For example consider the forms (various lives) of a soul. A worldly soul is associated with karmic particles. Thus it undergoes various phases in life - indulges in thoughts and emotions. The karmic particles serve as external instrumental causes of these modes. However, even during these modes, the intrinsic nature of the soul - perception, knowledge and bliss, remain intact, although they are latent. When a worldly soul sheds all karmic particles and attains its pristine state, origination and annihilation continue in its thought-activity according to its innate nature - absolute perception, knowledge and bliss.

***Disparate features in an object:***

ARPITANARPITASIDDHEH [5-32]

Any substance is established by considering its primary (ARPIT elemental) characteristics and its secondary (ANARPIT incidental) characteristics.

Each and every object or situation can be examined through its primary as well as through its secondary characteristics. These analyses may lead to contradictory conclusions. When water evaporates, the liquid phase is destroyed and gaseous phase is generated. From this (incidental) point of view, water is not indestructible. However, each molecule of water consists of two atoms of hydrogen and one atom of oxygen. This is true in both liquid as well as gaseous phases. From this (elemental) point of view, water is permanent. In this manner, the two contradictory views of a given situation can be reconciled.

According to modern science, there is no magnetic field associated with a charge at rest. However, a charge in motion has a magnetic field associated with it. Thus if a scientist on earth performs an experiment to detect the magnetic field due to the charged sphere, the result will be negative. But the charged sphere on earth is in motion relative to a spacecraft. Thus if an astronaut on the spacecraft performs an experiment to detect the magnetic field due to the charged sphere, the result will be positive. This indicates that the result of an observation depends on the viewpoint of the observer. Again, the two

observations, which appear to be contradictory on the surface, can be easily reconciled by considering the two different points of view.

***Attributes responsible for the formation of aggregates:***

SNIGDHAROOKSHVAD BANDHAH [5-33]

Combination of particles and aggregates is caused on account of smooth and rough attributes of touch.

All substances in the universe, such as lead, gold and sulfur, which we see or detect through our senses, are made up of particles possessing smooth and rough attributes. Further, their constituent particles are similar and therefore all matter is identical in nature. Prior to the advent of the theory of electronic structure, scientists believed that different elements were made up of different kinds of matter. However, the theory of electronic structure has led to the conclusion that atoms of all elements are made up of protons, neutrons and electrons. Thus all matter is similar in nature. This scientific fact agrees with the Jain concept of matter.

Touch is of two kinds: smooth (SNIGDH) and rough (ROOKSH). The Sanskrit words SNIGDH and ROOKSH are commonly interpreted as smooth and rough, respectively. However, in SARVAAARTHASIDDHI, Acharya Pujyapad has written:

SNIGDHAROOKSHAGUNANIMITTO VIDYUD ...

This literally means that lightning occurs on account of the SNIGDH and ROOKSH attributes. On this basis, Prof. G. R. Jain has identified the SNIGDH and ROOKSH kinds of touch with positive and negative kinds of electrical charges.<sup>2</sup> Thus SPARSH refers to electrical charge. Modern science believes that lightning and thunder are caused through electrical discharge. Thus it appears that the words SNIGDH and ROOKSH mean positive and negative charges, respectively.

***A rule regarding non-formation of aggregates:***

NA JAGHANYA GUNAANAAM [5-34]

Combination does not take place of particles that possess the minimum (one) unit of smooth or rough attribute.

A unit of smooth or rough attribute is indivisible quantity of touch. Particles or aggregates of matter can have one, two, numerable, innumerable or infinite units of smooth or rough attributes of touch.

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<sup>2</sup> Cosmology: Old and New by Prof. G. R. Jain, published by Bharatiya Jnanapith, first edition, 1975, page 160.

This is like the atoms and molecules of modern science that can have one, two, three or any number of electronic charges. According to Jain scriptures, two particles or aggregates that possess only one unit of smooth (or rough) attribute do not enter into combinations with each other.

***Second rule of non-formation of aggregates:***

GUNASAAMYE SADRISHAANAAM [5-35]

Further, combination does not occur between particles or aggregates that possess equal units of smooth or rough attributes.

Two aggregates of matter having equal units of smooth (or rough) attribute cannot unite. Some scriptures state that an aggregate having certain number of units of smooth (rough) attribute can combine with another aggregate having the same number of units of rough (smooth) attribute. Other scriptures postulate that such unions cannot occur.

***The rule of formation of aggregates:***

DVADHIKAADHIGUNAANAAM TU [5-36]

Combination takes place between particles or aggregates that differ by two units of smooth or rough attributes.

Two aggregates that differ in smooth or rough attributes by two units only can unite. For example, an aggregate having  $x$  units of rough attribute can combine with another aggregate having  $x + 2$  units of rough attribute. In this instance, the resulting aggregate has  $2x + 2$  units of rough attribute. When an aggregate having  $x - 1$  units of smooth attribute combines with another aggregate having  $x + 1$  units of smooth attribute, the resulting aggregate has  $2x$  units of smooth attribute.

It should be noted that according to the Jain concept, even electrons and positrons are composite - formed from smooth and rough aggregates of ultimate particles. It means that the electron is composed of both smooth and rough kinds of aggregates, and similarly, the positron is also composed of both smooth and rough aggregates. There is an excess of two units of smooth attribute in a positron, while there is an excess of two units of rough attribute in an electron. When an aggregate having  $2x + 2$  units of rough attribute combines with an aggregate having  $2x$  units of smooth attribute, the resulting aggregate is an electron having 2 units of rough attribute (negative charge). Similarly, a proton is formed by the combination of an aggregate having  $2x + 2$  units of smooth attribute with another aggregate having  $2x$  units of rough attribute.

***Properties of the resulting aggregates:***

BANDHEADHIKAU PAARINAAMIKAU CHA [5-37]

In the process of combination, the component having the higher unit of smooth (or rough) attribute transforms the component with the lower unit of rough (or smooth) attribute.

As stated above, two aggregates that differ in smooth or rough attributes by two units only can unite. Further, the resulting aggregate acquires the attributes of the original aggregate with larger units of smooth or rough attributes. As illustrated by the above examples, the combination of aggregates with dissimilar attributes results in aggregates possessing only two units of smooth or rough attributes. This fact shows that electrons, protons and positrons possess two units of rough or smooth attribute as described above. The fact that the magnitude of negative charge on an electron is equal to that of the positive charge on a proton or a positron, in spite of the fact that their masses are different, supports this concept of Jainism.

As stated above, there are two views in the Jain scriptures regarding the combination of aggregates with dissimilar kinds of touch - smooth and rough. According to one belief, two aggregates possessing equal units of smooth and rough attributes do not bind to each other. The numbers of smooth and rough attributes must differ by two for combination to take place. According to the second view, two aggregates having equal units of smooth and rough attributes can combine. The formation of neutron and neutrino (which are electrically neutral) can be explained on the basis of the second belief.

***Supplemental definition of entity:***

GUNA-PARYAYVAD DRAVYAM [5-38]

Each entity possesses its intrinsic attributes and modifications.

Earlier it has been stated that existence is the quintessence of an entity, and existence entails permanence of innate nature during origination and annihilation of modifications or forms. The present aphorism features the same concept. An entity possesses its intrinsic attributes that are permanent, and it undergoes modifications according to its innate nature. Certain external objects may serve as instrumental causes of some transformation. Nevertheless, the innate qualities cannot be violated or altered in any transformation.

***Time - the sixth entity:***

KAALASHCHA [5-39]

Time is the sixth entity.

Time is an entity. It has its intrinsic attributes and it also undergoes modifications. It should be pointed out that it is the stream of time that is responsible for the existence, transformations, actions and sequence of events in the universe (aphorism 5-22).

***Eternal nature of time:***

SOANANTASAMAYAH [5-40]

It possesses infinite instants (SAMAYAS).

In Jain scriptures, the smallest unit of time is called SAMAYA - instant. Evidently, time is an entity and, by definition, an entity is everlasting, so time has infinite instants (SAMAYAS).

***A feature of attributes:***

DRAVYAASHRAYA NIRGUNA GUNAAH [5-41]

Entities are the substrata of their respective attributes, which are not substrata of other attributes.

Every entity possesses certain unique characteristic attributes. For example, perception and knowledge are two of the attributes of soul. No other entity possesses perception and knowledge. In turn, the attributes of an entity do not possess any qualities including those that are characteristic of the entity in question or of any other entity. It should be noted that qualities of modifications are transient and so they are excluded in this context. For example, clay and pitcher are modes of matter. Their qualities such as color and touch change as the form changes from clay to pitcher. The present aphorism relates to innate qualities of an entity. It does not relate to the mutating qualities of modifications.<sup>3</sup>

***Transformations and essence of an entity:***

TADBHAAVAH PARINAAMAHAH [5-42]

Transformations (PARINAAMS) of an entity constitute its intrinsic nature.

Each entity has certain characteristic attributes, which constitute its innate nature. The intrinsic nature of an entity - its characteristic attributes are eternal (aphorism 5-31). It undergoes transformations

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<sup>3</sup> Reality, English translation of Acharya Pujyapad's SARVAARTHASIDDHI by S. A. Jain, published by Vir Sasana Sangha, Calcutta, 1960, page 166.

accordingly. Time is an instrumental cause of such transformations (aphorism 5-22). In the present aphorism, the insightful Acharya underscores that all transformations of an entity occur according to its innate nature or characteristics. ***In plain words, all the entities and their modifications (events in the universe) are guided by the laws of nature. This obviates the need for any supreme being who creates or regulates the things and events in the universe. In Jainism, there is no room for any supernatural or miraculous events. Everything transforms according to the laws of nature. This reflects the scientific nature of the Jain concept of reality.***

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### *Self-endeavor or Determinism: A Jain scriptural view*

According to the Jain scriptures, some transformations of karmas can be achieved by a worldly soul through self-endeavor are:<sup>4</sup>

**Premature Operation** (UDEERANA): When certain karma particles are made to become operative before their predetermined time, it is called premature operation. Just as fruits can be ripened before time by careful processing, similarly, through proper thoughts and effort, the consequences of karma particles can be endured prematurely.

**Augmentation** (UDVARTANA or UTKARSHAN): The duration and intensity of fruition of karma particles are determined by the intensity of passions at the time of bonding. Subsequent increase in duration and intensity that may occur because of thoughts and endeavor is called augmentation.

**Diminution** (APVARTANA or APKARSHAN): This is the opposite of augmentation. The decrease in duration and intensity of karma particles that may occur because of thoughts and endeavor is called diminution.

**Mutation** (SANKRAMAN): The conversion of one type of karma particles into another type of karma is called mutation of karma.

**Subsidence** (UPASHAMAN): The state of karma in which operation or premature operation of karma does not occur is called subsidence. In such a state, augmentation, diminution and mutation are possible. As soon as the duration of subsidence of a particular group of karma particles is over, those karma particles become operative and are shed upon fruition.

These indicate that 'free will' plays an important role in the lives of worldly beings. A worldly being can change the consequences of karma associated with its soul through self-endeavor.

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<sup>4</sup> For details, please see 'Scriptural View Of The Jain Theory Of Karma', Studies In Jainism: Reader 2, chapter 35.