

The State of Arihant and Cybernetics

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Each concept in Jain Philosophy is subject to scrutiny in term of scientific analysis. In fact, all Jain principles are based on scientific understanding of working of all the substances in all times in the universe. What has been taught is not a theory or formulated/hypothesised principles but based on observing the actual working of substances. The concepts are not made by anyone but t only describes how the system is functioning. As such, it refers to eternal principles. We may have limitations in understanding them, since present day science is also in a developing/evolving stage and hence there are limitations of comparison. Some concepts use very high level of mathematics making concepts precise but complicate understanding. There is hardly any aspect of science that has not been touched upon in Jain Philosophy. Cybernetics is taken here as an illustration.

Cybernetics

It is a science that deals with the study of control processes in a complex system. It uses a systematic approach combining in itself several branches of knowledge for understanding a given phenomenon. A cybernetic system takes into account many interconnecting controllers and their response to variety of changes. Cybernetics is thus associated with models of systems in which a monitor compares what is happening in time t_1 , x_1 with some standard of what should happen at t_1 , x_2 . The difference or error $e_1 = x_1 - x_2$ is fed to a controller for action which can only be taken only at a later time $t+k$. So we get elements in control model as $Y_{t+k} = f(e_1) = f(x_1 - x_2)$. The error e_1 continuously measures the difference between standard required and the current status.

The sequence of error terms e_1, e_2, e_3, \dots is analysed to reveal their inherent variety. The measure of variety is called entropy, a measure of degree of disorder in a given system. When the task is complex and achieving a final goal leads to changes in various systems setting out many intermediate goals. Cybernetic systems are often self-teaching mechanisms. Self-teaching is nothing but a type of self-development of control systems.

Control principles can be applied to any concrete situations. However, success depends on the development of measure for the scientific knowledge in a given field of application such as Electrical and Mechanical Engineering, Physics, Astronomy, Biology, Communication, Neuroscience Econometrics, Social sciences, Philosophy, Computers and so on.

Cybernetic Model of Moksha

Jain Philosophy as described by Arihants and propagated by Ganadhars and Acharyas is cybernetics par excellence. The ultimate aim of Jain Philosophy is to facilitate achievement of Moksha, a state of complete control of self and purification of soul. The specification of the process of purification entails narration of several systems which hinder or help the

process. Thus, the use of cybernetics becomes inevitable. For every stage of purification, it is required to know what is happening at time t_1 and compared it what should happen at time t_1 . The error, the difference has to be fed or self-learned for controlling action and achievement of desired result. Errors or delays hamper the process of attaining Moksha. Inadequate or wrong understanding of errors leads to deviation from the path of purification. Various control processes are designed to ensure proper feedback and effective control.

The Cybernetic Model of Moksha is thus prescribed in Jain philosophy for ultimate happiness of beings. All cyber laws or principles are designed with a view to enhance material well-being of mankind. Jain Philosophy goes to the ultimate stage where well-being of all species can be ensured. Misuse of the information available results in penalty in mundane world. Similarly, misuse or ignoring signals of misuse results in perpetual births and deaths. The Supreme Control Theory exists in Jainism from time immemorial and applied to a state of moksha where ultimate separation of karmic substance and soul is achieved. In the process of elimination of distorting influence of karmic particles on the soul, several optimal control concepts are beautifully explained in Jainism. Both the path of moksha and state of moksha are explained in cybernetic manner.

Jain cybernetics is also endowed with self- teaching and self -development mechanism as well so that great yogis doing meditation or living in remote jungles are also able to benefit if they understand well about it. The process is also explained with the help of mathematics which refines understanding of the same. Different stages of self-purification are described in Jainism with degrees of control of various systems and the seeker will learn about one's errors as realizes the self and eliminate the errors in further stages of purification of soul. Control or *Sanyam* relates to various systems such each system of senses, systems of mind, words and body, complex system of desires, complex system of karmas and so on constitute the quintessence of Jain Philosophy in various stages of path to moksha and in moksha.

Optimal Control: A case of *Arihant*

In order to illustrate what has been said about cybernetics and optimal control, an example of the state of Arihant is given below which is one of the most exalted stages in the process of purification of self where different complex systems operate in a subtle manner and there is an optimal control of all systems. The state of Arihant embodies simultaneous operation of infinite complex systems. A few illustrations are given below.

1. Infinite Systems: A soul has infinite properties and each of properties manifests in some form but remain independent and not affected by the other properties. Further each of properties assumes infinite forms over time. Properties such as infinite knowledge, infinite perception, infinite power, and infinite bliss manifest in perfect manner yet each remains in their optimal control and operate in a harmonious way. It is a marvellous system and the wonder of wonders of soul's manifestation where words fail to fathom and express the complex systems.

2. **Karmic Systems:** The Arihant has destroyed four karmas- knowledge-blocking, vision-blocking, delusions and blocking of infinite power. It does not mean they have got over only four karma particles. Each of karma has infinite karma/pudgal particles. Thus, destruction of four types means, in fact, destruction of infinite number of particles. What a beautiful system! As soon as infinite knowledge manifests, these infinite particles wither away.

3. **System of being Omniscient:** In this perfect state of knowledge, Arihant knows simultaneously all the substances in the Universe with its all properties and forms, relating to all times and places. The system is so perfect that none of these fail to reflect and automatically known to the soul without any hindrance. Infinite souls, infinite particles (atoms), infinite time units, infinite space units, medium of motion and medium of rest are all known to Arihant, with no power/energy failure or any default whatsoever.

4. **Biological System:** The biological process in Arihant is unique, unparallel and difficult to understand in modern biology. They live without consuming any food and water, no perspiration, no disease, no urine, no stool, rise above earth, and so on. In case of some Arihants, this biological process goes on for millions of years. Structure of Arihant body including bone structure is unique and cannot be crushed or damaged or destroyed by anybody. At the time of moksha, body evaporates, while nails and hairs remain. This is the ultimate in human biological system.

5. **Information System:** Arihant's information system is beyond normal understanding of information technology or science. Arihant processes infinite knowledge of universe, data, state of existence, infinite matters, infinite lives, feelings and so on and all of them processed instantly and simultaneously without any lapse of time in the same indivisible one unit of time. This must be the ultimate in information theory.

6. **Communication System:** The communication system associated with Arihant defies any contemplation on communication as such. He communicates without using lips or mouth. In a stage erected by heavenly beings known as Smosharan for hearing the preaching of Arihant, all questions of all beings- humans, animals, heavenly beings and others saints present there, are understood and answered simultaneously in all languages to their utmost satisfaction without lapse of time and without the use of light/rays or other objects.

7. **System of Astronomical Vision:** Arihant's visionary capacity is such that it is perfect, eternal and never disappears or diminishes. It is not limited as in terms of capacity of satellites to take pictures etc. With perfect knowledge and perfect vision, The Arihant has the capability to see infinite objects of all the times, with no loss of its capacity for infinite times to come. This is the best of astronomical vision which makes seeing the entire universe possible without any distinction of time in terms of present, past, future and without any medium.

8. **System of Yoga:** Yoga involves control of mind, words and body. Arihant has all the three but has unique and the ultimate control in yoga one cannot think of. All the three become non-functional as we understand about them. Likewise, all the five senses do exist but

become non-functional. Arihant has physical existence of mind but it is non-operational as its capacity is limited and cannot comprehend the infinite dimensions. System of words or expressions and functioning of body are not in a coveted manner as observed in human beings. These take place in the spontaneous manner, without any design, with optimal control and in perfect harmonious manner. Sounds produced while preaching in Samosharan take place spontaneously at definite intervals but the sound is related to body and not soul. At times, body also moves spontaneously and Samosharan shifts automatically.

9. System of Meditation: The soul is completely absorbed in the self without any disturbance in the state of Arihant. Although there are seemingly disturbances owing to movements of body and action of words but the level of meditation is supreme. Meditation here means complete focussing attention of the self. The state of Arihant signifies purest and perfect of meditation (shukla dhyana). Such level of meditation is achieved after great efforts and practice and amounts to have control and optimum operations of all systems. There are various levels of meditations and each of level has varying degrees of attention of the self.

10. Stages in Cybernetics: Arihant is in the thirteenth stage in terms of spiritual ladder. What has been described above refers to spiritual ladder and is indicative of operation of many complex systems, some of which have been narrated above, involving operation of infinite particles. The system of qualitative stages of purification of soul is explained with the help of different degrees of purification of soul and deformities. These are also explained in terms of systems of karmic particles associated with each stage, from first to fourteen and beyond that, i.e. moksha.

To sum up, Jain concepts and scholars have cybernetics in the background in its most completed manner ever conceptualized even by its modern scientists. Different systems culminate into a state of Arihant and manifest mostly in its ultimate forms. All the mysteries get exposed, the ultimate truth is realised and supreme perfection is achieved. This is the ultimate in cybernetics and optimal control theory.

About the author: Dr Jayanti Lal Jain holds Ph. D in Economics from Oklahoma State University, USA and Ph. D in Jainology from University of Madras, Chennai. He was Professor Emeritus at Department of Jainology, University of Madras. He worked at Indian Bank, Chennai as Chief Economic Adviser/General Manager. Dr Jain has published many articles on Jain Philosophy and on Economics, Banking and Finance. His books on 'Pure Soul and its Infinite Treasure', 'Acharya Kundakund and Jain Philosophy' have been published by University of Madras. He has delivered many special lectures in India and abroad and has considerable teaching experience.