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REVIEW ARTICLE

A Critical Analysis on 'Theory of Knowledge' (Epistemology) of Charaka Samhita and its Importance in Clinical Medicine

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ABSTRACT

Introduction: Epistemology, that is, "theory of knowledge" or *Pramana Vigyana* is considered as one of the three fundamental division of any philosophy. The metaphysical analysis and ethical conclusion of any philosophical school depend on its theory of knowledge. *Charaka Samhita* having a unique philosophical background which is conglomeration of different philosophical doctrines from all the major Indian philosophical schools also depends on its own epistemology while propounding the principles of *Ayurveda*. Understanding the different *Pramana*, that is, sources of knowledge as discussed in this compendium helps us to understand the subject better and their subsequent application in clinical medicine for benefit of mankind. The present study was carried out to evaluate the different *Pramana* or sources of knowledge as discussed in *Charaka Samhita* and also to evaluate their subsequent application in the field of clinical medicine.

Discussion: Charaka Samhita has propounded four principal Pramana such as: (1). Aptopadesha (scriptural testimony) (2), Pratyaksham (sensory perception) (3), Anumana (inference), and (4). Yukti (reasoning). Along with these four sources of knowledge, it also discussed other Pramana briefly such as: Aoupamya (comparison), Aitihya (ethical guidance by authoritative persons and scriptures), and Arthaprapti (implied meaning). But throughout the compendium, Acharya Charaka has given most importance to three Pramana like Aptopadesha followed by Pratyaksha followed by Anumana. The understandings of all these Pramana are mainly based on Nyaya philosophy although the chronology follows the Samkhya tradition. What makes the epistemology of Charaka Samhita a unique one is its clinical implementation as discussed by Acharya Charaka in relation with every Pramana.

Conclusion: Understanding the various *Pramana* as discussed in *Charaka Samhita* along with their clinical implementation helps us to realize the profound philosophical background of this compendium. It also paves the way for more innovative research as how to apply this eternal knowledge of epistemology for advancement of medical science.

1. INTRODUCTION

Ayurveda has been considered as fifth Veda as well as Upa-Veda of Atharva Veda. [1] Among the several scriptures of Ayurveda, Charaka Samhita is widely regarded as the foremost compendium which deals with the basic metaphysical aspect of Ayurveda as well as their practical application in the field of treatment also. The original author of Charaka Samhita has been regarded as Maharshi Agnivesha who

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had written this treatise on the basis of the teachings of his preceptor *Atreya Punarvasu* - so both the personalities thought to be contemporary and lived around 1000 BC.^[2] Later this treatise was edited by *Acharya Charaka* who lived around 300–200 B.C.^[3] The final shape has been given by *Acharya Drirhavala* who redacted this compendium around 4th century C.E. and revised this treatise completely according to the need of time and introduced 41 chapters into it, which was part of the original compendium but got lost with the passage of time and was unavailable at the time of him.^[4] Hence, it can be said that *Charaka Samhita* has been written in three stages spread around different ages. Every age had their distinct influence of different school of philosophies and all these principles of different philosophical schools got reflected

in to Charaka Samhita, mainly of theist schools of Indian philosophy such as Nyaya, Vaisheshika, Samkhya, and Yoga. Likewise, in the later stages strong influences of atheist school of Indian philosophy like Buddhism can also be observed in to it. The philosophical background of Charaka Samhita is very unique one which consist implication of several philosophical doctrines from different philosophical schools but it cannot be said that, Charaka Samhita has bluntly applied those philosophical understandings as they were mentioned in the original source. Rather just like the honeybee, Charaka Samhita gathers different philosophical understandings from different schools of philosophy and subsequently assimilates all of them according to its own unique principle of understanding and represents all those doctrines in a more practical way and applied them accordingly to achieve its primary aim - maintenance the health of a healthy person as well as alleviation of diseases of a diseased person. Thus Charaka Samhita propounds its own unique philosophical theories which are rooted in previous ancient schools of philosophy but have a new approach of understanding and practical application with lots of modulation as cited in Figure 1.

Every philosophical doctrine has three distinct areas such as: (1) Theory of reality (Ontology and Metaphysics), (2) theory of knowledge (Epistemology), and (3) theory of ethics (Axiology). Charaka Samhita also deals with these areas while propounding its own philosophical doctrines. Following the traditional system of Indian philosophical schools, Charaka Samhita also deals with theory of knowledge (epistemology) with great importance. Epistemology has been defined as Pramana Vigyana as per Indian philosophical tradition. Absolute knowledge has been termed as Prama and the realisation of this absolute knowledge is said to be dependent on three factors: (1) Pramata - the knower of the knowledge. Without the proper knower, knowledge cannot be known, (2) Prameya - object of knowledge, (3) Pramana - the method of knowing/source of knowledge. [5] Pramana is considered to be the most important aspect for proper knowledge. Among all the philosophical schools, Charaka Samhita primarily has chronologically followed the epistemology of Samkhya Darshana, but in their individual description many principles of Nyaya school of philosophy has also been followed. According to Samkhya philosophy, Pramanas are three – (1) Pratyaksha (sensory perception), (2) Anumana (inference), and (3) Shabda (ethical and moral guidance by preceptors and scriptures).^[5] The same *Pramanas* are accepted by Acharya Charaka also. In Vimanastahan, he has mentioned that, "the specific knowledge regarding disease can be determined by three ways, namely, Aptopadesha (authoritative guidance), Pratyaksha (sensory perception), and Anumana (inference)". [6] Here Shabda Pramana of Samkhya has been termed as Aptopadesha. Again in Sutrasthana, Acharya Charaka has accepted four Pramanas: (1) Aptopadesha, (2) Pratyaksha, (3) Anumana, and (4) Yukti (reasoning).[7] Although this may appears to be different from Samkhya thought, but later Acharya Charaka has included Yukti Pramana under Anumana Pramana.[8] But in Vimanasthana, Acharva Charaka has also accepted Upamana (comparison), Aitihva (ethical guidance by authoritative persons and scriptures), Arthaprapti (implied meaning) and Sambhava (source) as Pramana[9] which are not implications of Samkhya thought. Accepting all these Pramanas together build the unique philosophical statement of Charaka Samhita. In such backdrop the present study was carried out to evaluate the epistemology and different source of knowledge, that is, Pramanas as propounded by Charaka Samhita as well as to evaluate the utility of each of the source of knowledge, that is, Pramanas, along with their practical implication in the field of Roga Pariksha (examination of disease) and Rogi Pariksha (examination of patient).

2. MATERIALS AND METHODS

The literary information regarding various *Pramanas* as propounded by *Charaka Samhita* have been collected and studied thereafter from different sections of the said compendium, mainly *Sutrasthana* and *Vimanasthana*. For elaboration of various statement of *Charaka Samhita*, different commentaries of the said compendium have been thoroughly studied among which *Ayurveddipika* of *Acharya Chakrapani Dutta* being the principal one. To study the philosophical background of each *Pramanas*, various texts of Indian philosophy have been studied, among which *Nyayasutra* of *Gautama (Vatsayana Bhashya)*, *Sankhyakarika* of *Ishwarakrishna*, and *Sarva Darshana Samgraha* of *Madhavacharya* are principal one.

3. DISCUSSION

3.1. General Utility of Pramana Vigyan (Epistemology)

Epistemology is important in anything we do, even in our day-today life. Especially in this age of information overload, the veracity of information is always in doubt now a days - so epistemology becomes all more important nowadays not only in philosophy but also any branches of science such as Ayurveda, other streams of medical science, engineering, politics, journalism and every aspect of human life. Pramana (source of knowledge) are considered to be the base of all types of fundamental and applied knowledge. Medical science like Ayurveda also stands on the ground of appropriate Pramana. Perception of clinical features of any disease, distinguishing the causative factors and management of that disease with appropriate medicaments are all depended on Pramana Vigyan or epistemology. Acharya Charaka in Vimanasthana has opined that, "the wise should properly understand a disease by the different Pramana. As far as possible all factors should be discussed in their entity. After examining the disease by scriptural testimony, etc., the physician should obtain knowledge regarding the nature of disease and therapies required therefore. One who is well versed in the specific nature of the disease as well as the therapies required therefor seldom fails to act properly. It is only he who acts properly reaps the results of proper action. When a physician who even if well versed in the knowledge of the disease and its treatment does not try to enter into the heart of the patient by virtue of the light of his knowledge, he will not be able to treat the disease."[10]

3.2. Types of Pramana According to Charaka Samhita

After studying *Charaka Samhita* thoroughly one will find that *Acharya Charaka* has mentioned different number and types of *Pramana* in different places as listed below:

- In Sutrasthana, 11th chapter Acharya Charaka has mentioned four principal types of Pramana in relation with attaining knowledge about both existent and non-existent objects as: "everything can be divided into two categories as Sat (true/existent) and Asat (untrue/non-existent). These can be examined by one of the following four methods, namely, (1) Aptopadesha (scriptural testimony), (2) Pratyaksham (sensory perception), (3) Anumana (inference), and (4) Yukti (reasoning)."[11]
- 2. In *Sutrasthana*, 12th chapter quoting *Acharya Vayorvida*, *Acharya Charaka* has mentioned three principal *Pramana* in relation with understanding the function of *Vata Dosha* as: "the functions of both corporal and external *Vata*, aggravated or otherwise, moving within or without the body, will be explained, as far as we can and as it has been ascertained by us through (1) *Pratyaksham* (sensory perception), (2) *Anumana* (inference), and (3) *Upadesha* (scriptural testimony)."^[12]

- 3. In *Vimanasthana*, 4th chapter *Acharya Charaka* has mentioned three principal *Pramana* in relation with examination of any disease as: "the specific knowledge regarding a disease can be determined by three ways, namely, *Aptopadesha* (authoritative guidance), *Pratyaksha* (sensory perception), and *Anumana* (inference)."^[13] Later in the same chapter he has incorporated *Yukti Pramana* under *Anumana*.^[14] Summarizing the importance of every types of *Pramana* in examination of a disease, *Acharya Charaka* has also commented that, "first of all one should examine the various aspects of diseases by employing all the three *Pramana*. Observations made on the nature of the disease thereafter are infallible. The understanding of the total nature of a thing does not arise from fragmentary study of it."^[15]
- 4. Again in Vimanasthana, 4th chapter Acharya Charaka has mentioned two types of Pramana for the persons who are well versed with Aptopadesha (authoritative instructions) in relation with examination of disease as: "of all the "source of knowledge" one should acquire knowledge in the beginning through Aptopadesha and thereafter proceed to examine a disease through Pratyaksha and Anumana. Thus for a person who is wise (well versed with authoritative instructions) examination (of disease) are two types Pratyaksham and Anumana." [15]
- 5. In Vimanasthana, 8th chapter while discussing the various ways of debate for attaining proper knowledge, Acharya Charaka has mentioned different terminologies such as Hetu, Pratyaksha, Anumana, Aitihya, Oupamya, Arthaprapti, and Sambhava, which are very important in relation with Pramana Vigyana. [9]

Among them while describing *Hetu, Acharya Charaka* has opined that, "means for obtaining the knowledge (observing the object) constitute the *Hetu* or cause. They are four types- (1) *Pratyaksham,* (2) *Anumanam,* (3) *Aitihya,* and (4) *Oupamya.* The knowledge obtained through these factors is valid." [16] *Acharya Chakrapani* while commenting on this said, "*Pratyaksha,* etc., are the sources of valid knowledge. They are treated as the cause (in place of sources) of valid knowledge here because they themselves are dependent on certain causative factors." [16] It is to say that, the knowledge of *Hetu* or *Linga* (causative factors or clinical features) of a disease can be obtained by these four *Pramana*. In this context, *Aptopadesha* has been termed as *Aitihya* whereas *Yukti* has been incorporated within *Anumana*. Only *Upamana* (analogy) should be considered as new entry. The rest terminologies will be discussed later.

6. Among the various Pramana mentioned in Charaka Samhita, the basic four Pramana, namely, (1) Aptopadesha, (2) Pratyaksham, (3) Anumana, and (4) Yukti should be considered as the most principal sources of knowledge as stated by Acharya Charaka in 11th chapter of Sutrasthana: "this is how (by four Pramana) all things - existent or non-existent should be examined and not otherwise." According to Acharya Chakrapani, using the word "not otherwise" Acharya Charaka has forbidden to use any other sources of knowledge mentioned in elsewhere scriptures. [18]

3.3. Sequence of Pramana in Charaka Samhita

If we analyze the sequence of different *Pramana* as mentioned in *Charaka Samhita*, we will observe that, the sequence has been kept same while mentioning them in various places. In *Sutrasthana* 11th chapter the sequence of *Pramana* has been mentioned as: (1) *Aptopadesha*, (2) *Pratyaksha*, (3) *Anumana*, and (4) *Yukti*. Again in *Vimanasthana* 4th chapter (twice - once at the beginning and once in the concluding verse) the same sequence of *Pramana* has been repeated such as: (1) *Aptopadesha*, (2) *Pratyaksha*, and (3) *Anumana*. Here *Yukti* has been included under *Anumana* as mentioned earlier.

A valid reasoning (Yukti) is depended primarily on inference (Anumana), which again depends on sensory perception (Pratyaksha). Unless anything is observed properly one cannot make a valid inference. This sensory perception or observation is depended on scriptural knowledge (Aptopadesha) as without knowledge one cannot even interpret his perception. That is why such sequence has been maintained by Acharya Charaka.

3.4. Description of Different *Pramana* as Mentioned by *Charaka Samhita*

3.4.1. Aptopadesha (authoritative instructions)

3.4.1.1. Characteristics of Apta (authoritative person)

Acharya Charaka has defined the term "Aptopadesha" as "Apta Vachanam" i.e. Vachanam (instructions/advices/moral and ethical guidance) from Apta (an authoritative person).'[19] In Sutrasthana 11th chapter, Acharva Charaka has given a detailed description of the characteristics of such a authoritative person who should be regarded as Apta like: "those enlightened and refined persons who are absolutely free from the predominance of Rajas and Tama by virtue of the power of penance and knowledge and who are always in possession of an uninterrupted knowledge pertaining past, present and future are known as *Apta*. They are also known as *Shishta* (gentleman) and Vibuddha (enlightened one). Their words are beyond doubt."[20] Again in Vimanasthana 4th chapter the characteristics of Apta has been mentioned as, "Aptas are free from doubts and their memory is unimpaired. They observe things without any attachments or afflictions. Because of these qualities, what they say should be regarded as authentic."[21] Observing this absolute enlightened character of Apta as described by Acharya Charaka, Acharya Chakrapani has later opined that, "this absolute authoritativeness can no doubt be found only in the Gods like Brahman. Limited authoritativeness is however possible even in human beings."[22]

3.4.1.2. Characteristics of Aptopadesha

As because the instructions from any authoritative persons are conveyed through words, that's why *Aptopadesha* as a source of knowledge is often termed as *Shabda Pramana*. As per the other Indian philosophical schools like *Samkhya*, this *Aptopadesha* has been refereed as *Agama Pramana*. Following the eternal tradition of theist schools of Indian philosophy, *Acharya Charaka* has also accepted *Vedas* as "*Aptagama*," that is, the ultimate authoritative testimony in *Sutrasthana* 11th chapter as: "*Aptagama* (scriptural testimony) is based on the *Vedas* or the other scriptural materials in agreement with the *Vedas* which is enunciated by the experts, approved by the gentlemen and initiated with a view to bringing about happiness to the mankind."^[23] Later in *Vimanasthana* 8th chapter, *Acharya Charaka* has mentioned these traditional *Vedic* and other scriptural authoritative testimonies as *Aitihya Pramana*: "*Aitihya* should be regarded as the traditional authoritative instruction or knowledge such as *Vedas*."^[24]

Considering the whole scriptural description of authoritative instructions given in *Charaka Samhita, Acharya Chakrapani* has classified them under two broad category: (1) Paramapta Bramhadi Pranita - the description of Aitihya Pramana by Acharya Charaka should be considered under this. (2) Loukikaapta Pranitascha - advices of persons having limited authoritativeness, which are based on observable facts.^[25]

3.4.1.3. Importance of Aptopadesha in clinical medicine Acharya Charaka has regarded Aptopadesha as the most principal

Acharya Charaka has regarded Aptopadesha as the most principal source of knowledge among the other two sources, namely, sensory

perceptions and inference (including reasoning). In Vimanasthana 4th chapter, Acharya Charaka has opined, "among all source of knowledge one should acquire knowledge in the beginning through Aptopadesha and thereafter proceed to examine a thing through Pratyaksha and Anumana."[26] Further to emphasis on the importance of Aptopadesha, he has also opined, "what is to be examined by Pratyaksha and Anumana unless something is prima facie stated?."^[27] Also while commenting on the above context, Acharya Chakrapani made the following observations, "one can know of a disease from Aptopadesha and thereafter ascertain its various characteristics by examining the symptoms of these disease through Pratyaksha and Anumana. Like an individual ignorant of the science, the physician will not be able to ascertain the nature of the disease without having proper knowledge about it through authoritative testimony. Specific characteristics of diseases cannot be ascertained without authoritative testimony."[28] To demonstrate how in absence of proper authoritative testimony, the other source of knowledge like direct perception and inference become non-infallible Acharya Chakrapani further gives an example: "an individual can observe the specific characteristics of a iewel if shown to him but he will not be able to correctly identify it if he is not acquainted with the specific characteristics of the various types of jewels. Similarly a man ignorant of the scientific characteristics of various types of diseases from authoritative testimony, will not be able to correctly diagnose them."[29]

3.4.2. Pratyaksha (direct sensory perception)

3.4.2.1. Characteristics of Pratyaksha

Although Acharya Charaka has mentioned Pratyaksha as one of the four principal source of knowledge, that is, Pramana, but as a matter of fact, in the entire compendium of Charaka Samhita, Pratyaksha has nowhere been described as Pramana. Wherever the topic of Pratyaksha has been discussed, it has been regarded as Prama, that is, form of pure knowledge. So it can be said that, if we ascertain the different characteristics of Pratyaksha as Prama, then the characteristics of Pratyaksha as Pramana should also be understood, as the realization of the ultimate knowledge is dependent on the methods of knowing or source of knowledge.

In Charaka Samhita, the characteristics of Pratyaksha as Prama or "form of pure knowledge" have been described in three different places - first in Sutrasthana 11th chapter and then again in Vimanasthana 4th chapter as well as in Vimanasthana 8th chapter. In Sutrasthana 11th chapter, Acharya Charaka has described the characteristics of Pratyaksha as: "the mental faculty (Buddhi) which is instantaneously manifested (Vyakta Tadatve) as a result of proximity of the soul, sense faculties, mind and the objects (Atmendriyamanoarthanam Sannikarshat Pravartate) - is known as Pratyaksha. [30] In this description of Pratyaksha, the use of the term "Vyakta" denotes the sense of definitiveness which separates the knowledge obtained by Pratyaksha from the knowledge obtained by Anumana (inference) and Smriti (memory etc.) as this possess a probability of possible error. Again the use of the term "Tadatve" denotes the instantaneous knowledge obtained by Pratyaksha in comparison with the knowledge obtained by Anumana or Yukti which may lag in time to realize. Hence, it can be said that, the source of such instantaneous definite knowledge should be regarded as Pratyaksha Pramana. That is why, in practical sense, the term Pratyaksha as Prama and Pratyaksha as Pramana has been used interchangeably. In Vimanasthana 4th chapter, while describing Pratyaksha Acharya Charaka has said: "Pratyaksha is that which is comprehensible by an individual through his own senses and mind (Yat Swayamindriyaimanasa Chopalabhyate)."[31] Using the term "Swayam" Acharya Charaka has acknowledged the role of Atma (soul)

in realization of knowledge through *Pratyaksha*. In this description, hypothetically the characteristics of both *Vahya Pratyaksha* (outer perception) and *Manas Pratyaksha* (inner perception) have been described. It is when *Atma* unites with the *Indriya* - then *Vahya Pratyaksha* occurs and when the same *Atma* unites with *Mana* - then *Manas Pratyaksha* occurs. In the 8th chapter of this same section, *Pratyaksha* has been described as: "things perceived by oneself or with the help of sense organs should be regarded as *Pratyaksha* (*Tadyadatmana Chendriyaischa Swayamupalabhyate*). Happiness, misery, desire, hatred, etc., are perceived by the "Self" himself (*Atmana Swayam*) and sound, etc., are perceived with the help of sense organs:"

[32] Here also the description of both *Vahya Pratyaksha* and *Manas Pratyaksha* has been given.

If we summarize the three different description of *Pratyaksha* as discussed by *Acharya Charaka* the following points should be noted: (1) *Pratyaksha* arise due to conglomeration of *Atma, Indriya, Mana* and *Indriyartha*. (2) The knowledge obtained from *Pratyaksha* is always definitive in nature as denoted by the words "*Vyakta*" and "*Upalabhyate*". (3) The knowledge obtained from *Pratyaksha* is always instantaneous in nature as denoted by the words "*Tadatve*" and "*Swayam*". (4) The knowledge obtained from *Pratyaksha* can be of two types - knowledge regarding outer objects such as sounds, color, and taste. (*Vahya Pratyaksha*) and knowledge regarding different human emotions such as happiness, misery, and desire (*Manas Pratyaksha*).

3.4.2.2. Obstacles against Pratyaksha (Badhaka Bhava)

As obtaining knowledge through *Pratyaksha* depends on the proper conglomeration of four different factors such as *Atma, Indriya, Mana,* and *Artha*, so any condition or factor which causes obstruction in such conglomeration can cause obstacles in instantaneous manifestation of mental faculty. In *Sutratshana* 11th chapter, *Acharya Charaka* has mentioned eight different such conditions which can play the role of obstacles in obtaining knowledge through *Pratyaksha*. These eight conditions or factors are generally regarded as "*Badhaka Bhava*". These are: (1) *Ati Sannikarshat* (over proximity of objects), (2) *Ati Viprakarshat* (over distance of objects), (3) *Avaranat* (presence of any veil or covering over the objects), (4) *Karana Dourvalyan* (debility or impairment of the sensory organs), (5) *Manoanavasthanat* (mental instability), (6) *Samanavihara* (confusion with other similar objects), (7) *Abhibhavat* (over shadowing of objects), and (8) *Ati Souksmat* (over minuteness of objects).

3.4.2.3. Limitations of Pratyaksha

In Sutrasthana 11th chapter, Acharya Charaka while discussing the topic of rebirth and reincarnation, has reminded the limitations of Pratyaksha - both as Prama and Pramana. It has been said that, "a wise man should however give up the heterodox view and related doubts (regarding rebirth). Why? Because the scope of perception is limited (Pratyaksham Hi Alpam). Unlimited is the scope of things known through the other sources of knowledge (Analpam Apratyaksham Asti), namely, scriptural testimony, inference and reasoning. Even the sense faculties (Indriya) through which one can perceive objects are themselves not the objects of direct perception."[34] Further to give emphasis on the limitations of direct sensory perceptions, Acharya Charaka added: "moreover, it is not correct to say that only things which can be directly perceived only exist and others don't. There are things, which though existent cannot be directly perceived due to over proximity, over distance etc. (as stated above)."[35] Acharya Chakrapani also discussed the limitation of Pratyaksha while commenting on this context like: "the non-perceptibility of an object does not necessarily prove its non-existence. There are objects, which though perceptible,

are not actually perceived due to existence of some other factors. These factors have been summed up above like over proximity. For example, collyrium in the eyes is not perceptible due to its over proximity with eyes, a bird flying far away in the sky is not visible owing to over distance, a pitcher placed on the other side of the wall cannot be seen due to obstruction, a person with his eyes afflicted by jaundice cannot perceive whiteness of cloths, a person with his mind diverted toward the beautiful face of his beloved is not mindful of the words being uttered by another person close-by. A *Bilwa* fruit thrown among a heap of *Bilwa* fruits cannot be easily deciphered as a separate entity due to its confusion with other similar objects, shooting of meteors in the broad day light is not visible due to overshadowing by the rays of the sun, warms, etc., are not visible to eyes due to their over minuteness even they are placed nearby to eyes."^[36]

3.4.2.4. Importance of Pratyaksha in clinical medicine

Pratyaksha being regarded as the second most important source of knowledge by Acharya Charka has lot of important implications in clinical medicine. As a matter of fact, Pratyaksha is the only Pramana which has been accepted by all the schools of Indian philosophy - both theist and atheist schools including Charavaka. Pratyaksha is the most primary source of knowledge which is used by a person to achieve knowledge about something right from the time of his birth. In Vimanasthana 4th chapter, Acharya Charaka has described the importance of Pratyaksha in Roga Pariksha and Rogi Pariksha as: "one desirous of examining the specific characteristics of the disease by Pratyaksha should examine the objects of senses (Indrivartha) in the body of patient by his own senses (Indriyas) except the one relating to the gustatory organ (Rasa Gyanam). The objects which should be examined by auscultation (Shrotra Pariksha) are: (1) Antrakujan (gurgling sound in intestine), (2) Sandhi Sphutanamanguliparvanam (cracking sound in the joints including those in the fingers), (3) Swara Visesham (voice of the patient), and (4) such other sounds in the body of the patient like the sounds of coughing and hiccup. The objects which should be examined visually (Chakshusha Pariksha) are: (1) Varna Samsthana Pramana Chhaya (color, shape, measurement, and complexion), (2) Sharira Prakriti Vikarou (natural and unnatural states of the body), (3) others which can be examined visually such as signs of the disease and luster. Similarly, normal and abnormal smells of the entire body of the patient should be examined by the olfactory sense organ. Similarly the normal and abnormal touches of the patient should be examined by hand."[37]

3.4.3. Anumana (inference)

3.4.3.1. Characteristics of Anumana

The characteristics of Anumana as a source of knowledge have been discussed in three different places of Charaka Samhita. The first mentioning of characteristics of Anumana can be found in 11th chapter of Sutrasthana like: "Anumana (inference) is preceded by Pratyaksha (perception). It is of three types. It is related to the present, past as well as the future. For example, fire is inferred from the smoke and sexual coitus from pregnancy. These two belong to the inference of the present and the past respectively. Similarly, one can infer the forthcoming fruition of a tree from seed on the basis of the frequent observation about the production of fruits from seeds through direct perception."[38] Acharya Chakrapani commented that, "Anumana (inference) is always preceded by perception ("Vyaptigrahaka Pramanapurvakam")."[39] The inference provides the knowledge about not only present but also about past and future. "The source of knowledge which helps in determining an imperceptible object on the basis of past observations about the invariable association of the two (viz. the thing inferred and the means by which it is inferred) is inference."[40] The essential characteristics like "Pratyakshapurvam" and "Trikalam" of Anumana

differentiates it from Pratyaksha.

3.4.3.2. Types and examples of Anumana

Acharya Charaka has mentioned about the three types of Anumana along with respective examples but he has not termed them with specific terminology, although it is clear evident from the description that, he has followed the concept of Anumana as described by Nyaya Darshana. Nyaya Darshana has classified Anumana into three categories like Purvavat, Seshavat and Samanyatodrishta.[41] We can incorporate the three types of examples of Anumana as provided by Acharva Charaka under these three categories as: (1) Purvavat: When inference about the effect has been made from its cause like inference of fruition of a tree from the seed. It is related with future. This inference may not always be valid in as much as the seed in itself may not bring the desired effect. But this is also true that the seed when joined with other accessories like irrigation etc. is bound to result in the fruition of the tree in due course. (2) Seshavat: When inference about the cause has been made from its effect like sexual intercourse from pregnancy. It is related with past. (3) Samanyatodrishta: When inference has been made about a certain phenomenon from its general features different from its cause and effect like fire from smoke. It is related with present time.

In the other two occasions, in Vimanasthana 4th chapter and 8th chapter, Acharya Charaka has followed the aforesaid description of Anumana. In addition, he has opined, "Anumana is the indirect knowledge based on reasoning."[19] According to classical Indian philosophical tradition, whenever any knowledge is verified through inference, it should be verified by the help of five chronological arguments. In western philosophy, such logical argument is called syllogism and comprises two true premises (major premise and minor premise) which are validly implied for final conclusion. In Nyaya school of philosophy, these are termed as Pancha Avayava and has been mentioned as - Pratijna (statement), Hetu (reason), Udaharan (example), Upanaya (correlation between reason and example) and Nigamana (conclusion).[42] In Vimanasthana 8th chapter, Acharya Charaka has divided these five "Avayava" into two groups: (1) Pratijna (statement): "Pratijna may be defined as an assertion about the object to be proved i.e. "Nityah Purusha Iti (soul is eternal)." [43] (2) Sthapana (justification): "Sthapana may be defined as justification of the proposition by dint of the Hetu (cause), Drishtanta (corroborative instances/example), Upanaya (correlation between reason and example) and Nigamana (conclusion). The Pratijna comes first and then it's Sthapana."[44] Acharya Charaka has further categorically defined these terms as: (1) Hetu: "Hetu are the means for obtaining the knowledge. They are four types, namely, Pratyaksha, Anumana, Aitihya and Aoupamya." [45] (2) Drishtanta: "description of universal truths comprehensible by the wise and ignorant alike is known as Drishtanta, it illustrates the object."[46]

These five arguments in support of inference have been also mentioned by *Acharya Charaka* in *Sutrasthana* 30th chapter as: "after proper understandings, the meaning of texts should be interpreted with due regard to *Pratijna*, *Hetu*, *Udaharana*, *Upanaya*, and *Nigamana*..."^[47]

3.4.3.3. Importance of Anumana in clinical medicine

In general, the four important aspect of *Nidana Panchaka* can be ascertain through *Anumana Pramana*. *Hetu* or causative factors can be ascertained through *Seshavat Anumana*, diagnosis of the disease can be made on the basis of *Purva Rupa* (prodromal features) through *Purvavat Anumana* and again, diagnosis of a disease can be made on the basis of *Rupa* (clinical features) through *Samanyatodrishta Anumana*. Furthermore, the knowledge about *Samprapti* (pathogenesis) of

a disease can be ascertained through applying *Yukti Pramana* (reasoning), which again is based on *Anumana*. Hence, we can come to conclusion that, *Vyadhi Vinischaya* (diagnosis of disease) is largely dependent on application of *Anumana Pramana*.

Acharya Charaka in Vimanasthana 4th chapter has discussed the importance of Anumana in Rasana Indriya Pariksha (examination by gustatory organ) like: "tastes of the various factors in the body of the patient are no doubt the objects of the gustatory sense organ. They can however be ascertained by inference and not by direct observation. Therefore, the taste in the mouth of the patient should be ascertained by interrogation. Impairment of the taste of the body should be inferred when lice etc. go away from body. Sweet taste of the body can be inferred when flies are attached towards the body. In case of bleeding from the body, it should be resolved by giving the blood to dogs and crows to eat. Intake of the blood by dogs and crows is indicative of its purity and rejection by these animals indicates that the blood is vitiated by Pitta. Similarly other tastes in the patient's body can be inferred." [45]

In the same chapter, Acharya Charaka has given a detailed list of objects related to any individual, which should be examined by the help of inference like: (1) Agni (digestive fire) from Jarana Shakti (the power of digestion). (2) Bala (physical strength) from Vyayama Shakti (power of exercise). (3) Shrotradi (sensory organs like auditory faculty) from Shabdartha Grahana (power to perceive their respective objects like sound). (4) Vijnana (knowledge of a thing) from Vyavasaya (proper use of this thing). (5) Raja Guna from Sanga (attachments with women etc.). (6) Moha (confusion) from Avijnana (lack of understanding). (7) Krodha (anger) from Abhidroha (revengeful disposition). (8) Shoka (grief) from *Dainya* (feeling of poverty). (9) *Harsha* (joyous mood) from Amoda (sense of enjoyment). (10) Priti (pleasure) from Tosha (sense of satisfaction) (11) Bhava (fear) from Vishada (sense of apprehension) (12) Dhairyam (patience/courage) from Avishada (lack of apprehension in stressful condition) (13) Viryam (energy) from Utthana (initiation of actions). (14) Avasthanam (stability of mind) from Avibhrama (avoidance of any mistake). (15) Shraddha (desire) from Abhipraya (request). (16) Medha (intellect) from Grahana (capacity of assimilating knowledge). (17) Sangya (orientation) from Nama Grahana (recollection of name). (18) Smriti (memory) from Smarana (power of remembrance). (19) Shilam (likings) from Anushilana (habitual intake of things). (20) Dwesha (dislike) from Pratishedha (disinclination for taking something). (21) Dhriti (judgment capacity) from Aloulya (non-affliction by temptations). (22) Vashyata (obedience) from Vidheya (compliance with others). (23) Gudhalinga Vyadhi (diagnosis of ill-manifested disease) from Upashaya Anupashaya (application of relieving and aggravating factors). (24) Dosha Pramana Vishehsa (degree of vitiation of Doshas) from Apachara Vishesha (measurement of provocative factors) and (25) Ayusha Kshaya (diminution of life span) from Arishta (appearance of death signs). All these standard examples as given by Acharya Charaka should be very useful in clinical practice in relation with both Roga Pariksha and Rogi Pariksha.

3.4.4. Yukti (reasoning)

3.4.4.1. Characteristics of Yukti

Although Yukti (reasoning) has not be considered as a separate source of knowledge in principal schools of Indian philosophy but Acharya Charaka has recognized this as a separate source of knowledge with outmost clinical importance. It has been said that, the greatest quality of any physician is the ability of proper reasoning. Explaining the basic characteristics of Yukti, Acharya Charaka has said, "Yukti is the other source of knowledge. The following are its examples:

"Growth of crops from the combination of irrigation, ploughed land, seed and seasons; formation of *Garbha* (embryo) from combination of six *Dhatus* (five *Mahabhutas* and *Atman*)"; "Production of fire from the combination of the lower-fire-drill, upper-fire-drill and the act of drilling"; "Cure of diseases by fourfold efficient therapeutic measures." Thereafter Acharya Charaka determines the definition of Yukti as: "the *Buddhi* (intellect) which perceives things as outcomes of combination of multiple causative factors, valid for the past, present, and future, is known as *Yukti* (reasoning). This helps in the fulfillment of the three principal objects of human life, that is, *Dharma* (virtue), *Artha* (wealth), and *Kama* (desires)." [48]

3.4.4.2. Should Yukti be regarded as a separate Pramana?

Whether Yukti or reasoning should be regarded as a separate Pramana, that is, source of knowledge is a controversial topic. It is a fact that, apart from Acharya Charaka none of the other scholars of Ayurveda as well as other schools of philosophy has accepted this a source of knowledge. Acharya Chakrapani himself has disapproved the views expressed by Acharya Charaka in Sutrasthana 11th chapter acknowledging Yukti as a separate source of knowledge as: "the source of knowledge known as Yukti helps in determining an event or effect in relation to the various causative factors responsible therefore. It helps in formulating a rule to the effect that, give a group of causes, such and such effect or event is bound to occur. Strictly speaking Yukti is not regarded as source of knowledge but being a valuable means to the source of knowledge and also because of its utilitarian value in the world, it has been treated as a source of knowledge in the present context." [49] He further clarifies his stand in favor of not accepting Yukti as a separate source of knowledge like: "it has been suggested that Yukti (reasoning) as a source of knowledge relates to the knowledge of the future production of crops as a result of the combination of several present factors like irrigation, ploughing, seeds and seasons. However, the correlation of the future incident with the present factors is as good as Anumana (inference). Moreover, knowledge of future effect from out of the present causative factors cannot be had concurrently. Yukti or reasoning on the other hand relates to the universal causal relationship existing between the several causative factors and their effects not specifically related to the past, present or future."[49]

Other scholars like *Buddhist* philosopher *Shantarakshita* in his treatise "Tatvasamgraha" has first of all advanced arguments in favor of accepting Yukti as a source of knowledge like, "if something is bound to happen in the presence of a particular factor and does not happen in its absence, then this shows that the relationship exists between the two that is the cause and effect. Being definitive in character, this sort of reasoning cannot be included under perception, nor can it be treated as an inference because there are no Drishtanta (illustrations) to cite. Even if there are, they are involved in endless regression. Hence, Yukti should be accepted as a separate source of knowledge."[50] However, the commentator of Tatvasamgraha, Kamalashila has placed an opposite view, "but as a matter of fact this view doesn't find favor with Shantarakshita himself. For establishing such causal relationship as referred to above nothing else except inference is required. That's to say, one can infer the causal relationship between the two objects from the occurrence of the one from the other and not otherwise. It is not correct to say that no apt illustrations are available. There is in fact no dearth of illustrations to establish that things regularly happening only after a given group of factors are to be treated as latters' effects, for example, pitchers as effects of the various factors like potter or sounds effects of the various factors including points of articulation like palate."[51] It is a fact of interest that, Acharya Charaka himself also actually acknowledge Yukti or reasoning as a separate source of knowledge only in one instance - in *Sutrasthana* 11th chapter. In rest of the compendium, he has only acknowledged three types of source of knowledge. From this it is quite evident that, *Acharya Charaka* was also quite reluctant to acknowledge *Yukti* or reasoning as a principal type of *Pramana* or source of knowledge.

3.4.4.3. Importance of Yukti in clinical medicine

Acharya Chakrapani has commented that, "The scope of Yukti is unlimited as it holds good for all time - past, present and future. That's to say, the findings of Yukti about the causes and their outcomes are universal in nature. It is Yukti which helps in the fulfillment of the three basic objects of human life."[52] Whether Yukti has been denied as a source of knowledge or whether it has been incorporated within Anumana, the practical utility of Yukti are immense in field of diagnosis of disease as well as administration of medicaments. Determination of possible causative factors, correlations between clinical features and possible diagnosis, differential diagnosis, establishing pathogenesis of any disease depending on its clinical presentation with history of causative factors as well as determination of principle of treatment, administration of medicaments, dose calculations, etc., are all dependent on proper reasoning. Wherever, the other sources of knowledge such as Aptopadesha (authoritative instructions) and Pratyaksha (inference) are not sufficient to determine the decision making or else the diagnosis, proper reasoning (Yukti) on the basis of multiple available factors can lead us to success. The importance of Yukti in clinical practice has been established by Acharya Charaka himself in the following manner: "proper reasoning in relation with therapeutic properties depends on the dose (of therapy) and time (of administration). Success of treatment depends on the observance of this reasoning. A physician proficient in reasoning (regarding cause and effect) is always superior to those who are acquainted with drugs only."[53]

3.4.5. Aoupamya (analogy)

3.4.5.1. Characteristics of Aoupamya

In Vimanasthana 8th chapter, after discussing Pratyaksha, Anumana and Aitihya briefly, the characteristics of Aoupamya or Upamana (analogy) are also discussed briefly. According to Acharya Charaka, "exposition based on the similarity of the one with the other is Aoupamya or analogy. For example, "the disease Dandaka is explained as similar to Danda (staff)", "the disease Dhanustambha to Dhanus (bow)" and "a good physician to a successful archer." [54] In this context Acharya Chakrapani commented, "of the two objects which are mutually similar, the one which is better known is taken as an object of comparison as a means to explaining the less known object of comparison like "a Danda (staff) is better known to people, so if somebody explains that the disease Dandaka is similar to a staff in symptoms, even a layman would be able to identify the disease as and when one suffers from it. Or according to the Bhatta Mimansaka school one would remember the qualitative resemblance of the staff as related to the symptoms of the less known disease Dandaka on the basis of the aforesaid analogy."[55]

3.4.5.2. Why Aoupamya has not been considered as principal source of knowledge

Although Aoupamya or Upamana can be very useful as means of obtaining knowledge in clinical aspect in Ayurveda, but it is quite strange that Acharya Charaka has not mentioned it under principal sources of knowledge. One reason of it may be that, although analogy can be very useful as source of knowledge in day to day life but it has very high probability of error. As because Upamana depends on two aspect - first: one's pre exposure to the object which is used for

standard analogy and his ability to recapitulate the qualitative aspect of that object and second: one's ability to correlate the new unknown object with the known object based on their mutual similarity. Hence, if any individual is not well acquainted with the standard object with whom the analogy has been made and if any one wrongly correlates the known object with a similar unknown object - it results in error. However, the principal sources of knowledge as mentioned by *Acharya Charaka* such as *Aptopadesha*, *Pratyaksha*, and *Anumana* has no such drawbacks. Thus, Aoupamya might not be considered as principal source of accurate knowledge.

3.4.5.3. Importance of Aoupamya in clinical medicine

Aoupamya or Upamana can be very useful to draw an idea about an unknown object on the basis of analogy with a known object. In Charaka Samhita, analogy has been used in multiple instances to make understand about the different characteristics of different diseases, mainly in Nidanasthana and Chikitsasthana. The few examples of such analogy are: (1) The shape of Sharavika (a type of Prameha Pidaka) is like Sharava (earthen saucer).^[56] (2) The shape of Kacchapika (a type of Prameha Pidaka) is like Kurma Pristha Vat (resembling the back of tortoise).^[57] (3) The shape of Sharshapi (a type of Prameha Pidaka) is like Sharshapa (mustard seed).^[58] (4) The color of blood in Pittaja Raktapitta is Gomutra Sannibha (like cow urine).^[59] (5) The character of urine in different types of *Prameha* has been describe in respect to analogy with known objects like - water like urine in *Udakameha*, sugarcane juice like urine in *Ikshumeha*, mustard yellow urine in *Haridrameha*, decoction of *Manjishtha* plant like urine in Manjishthameha.[60] (6) Alabupushpavat Varna (color of skin will be like flower of long gourd) in Sidhma Kushtha.^[61] (7) Kakanantika Varna (discoloration of skin like Kakanantika fruit) in Kakanaka Kushtha^[62] and (8) Vahala Hasti Charmavat (thickening of skin like elephant skin) in Charmakushtha. [63] There are plenty of such examples that can be found in description of features of different diseases. With such analogy, a person will be able to diagnose the disease based on those features when encountered. Thus, it can be said, Aoupamya or Upamana should be regarded very useful in clinical medicine in order to diagnose and make prognosis about different diseases. In *Indrivasthana* also, many *Arishta Lakshanas* (death signs) have been described with the help of analogy like in case of - "if an unctuous powder resembling that of cow dung (Gomayachurnabham *Churna*) appears in and falls down from the head, the patient may live for 1 month only."[64]

Interestingly, the classical commentator of *Nyaya Darshana*, *Vatsayana* also has given two examples of analogy related with clinical medicine while discussing *Upamana Pramana* like: "like the characteristic of *Mudga* (green gram) *Mudgaparni* exists; like the characteristics of *Masha* (Bengal gram) *Mashaparni* exists." [65] 34 With such analogy, if a patient is advised to collect *Mudgaparni* or *Mashaparni* plant, it will be easy for him to understand the characteristics of those plant and to identify the plant. Hence, in clinical medicine, such analogy can be helpful to demonstrate the patients about characteristics different herbs which are not well-known to them and guided them to collect all those herbs according to need.

3.4.6. Arthaprapti (implied meaning)

3.4.6.1. Characteristics of Arthaprapti

Among classical schools of Indian philosophy such as *Purva Mimamsa* and *Advaita Vedanta*, *Arthapatti* (implied meaning) have been regarded as one of the Pramana. In *Vimanasthana* 8th chapter, *Acharya Charaka* has briefly described this as *Arthaprapti* as: "when from something explicitly stated, some other thing which is not stated is understood

- it is known as *Arthaprapti* (implied meaning). For example, if it is said that a given disease cannot be cured by *Santarpana* (nourishing therapy), it evidently follows that the disease is curable by *Apatarpana* (emaciating therapy). Again, if it is said that a patient should not eat during day time, it implies that he should be given food at night." [66] *Acharya Chakrapani* has commented in this context like: "Reasoning by implication is accepted as a separate source of knowledge by some scholars. It is, however, not accepted as a source of knowledge in this text as much as it was not considered advisable to do so. When free from fallacious reasoning, it can be safely included under inference itself. For a patient who cannot be cured even by the emaciating therapy, the statement "not curable by nourishing therapy" will not hold good. If he is not curable either by nourishing or by emaciating therapy, the only statement that could be made in such a case would be that he is incurable." [66]

Classically Arthapatti has two variations: (1) Drishtarthapatti - when something is implied when it is not visually experienced. Acharya Charaka's example of "if it is said that a patient should not eat during day time, it implies that he should be given food at night" comes under this category. (2) Shrutarthapatti - when something opposite is implied after hearing one. Acharya Charaka's example of "if it is said that a given disease cannot be cured by Santarpana (nourishing therapy), it evidently follows that the disease is curable by Apatarpana (emaciating therapy)" comes under this category.

3.4.6.2. Importance of Arthaprapti in clinical medicine

Arthaprapti can be used in clinical medicine to obtain the inner meaning of various textual descriptions about different causative factors, features, and management of diseases. Like in the description of Upashaya and Anupashaya (relieving and aggravating factors) of different diseases Arthaprapti can be used to obtain the knowledge which is not explicitly stated. For example, when it has been said that, Ruksha (dry), Shita (cold), Alpa (scanty), Laghu (light) Anna (diet) are responsible for vitiation of Vata Dosha, it can be implied that, Snigdha (unctuous), Ushna (hot), Vahu (abundant), Guru (heavy) Anna (diet) are responsible for pacification of Vata Dosha. Similarly, when it has been said that, among 20 types of Prameha only 16 types are Sadhya (curable), it implies that the rest of 4 types of Prameha should be considered as Asadhya (incurable). As a matter of fact, applying Arthaprapti as source of knowledge needs to make inference about the unavailable information in the primary statement. Thus, broadly this Arthaprapti should be included under Anumana Pramana (inference).

4. CONCLUSION

Epistemology has been considered as essential aspect of every philosophy. Philosophy signifies a natural and a necessary urge in human beings to know themselves and the world in which they live and move. Philosophy remains essentially an intellectual quest for truth. In this quest for truth, Pramana or the sources of knowledge remains the most important factor in every philosophical school. Charaka Samhita is built up on such philosophical foundation which represents the collective views of all the major Indian philosophical schools. But what makes this compendium unique is its ability of assimilation and transformation of all those classical thoughts into more practical aspect in relation with diagnosis of diseases, their management and prevention. In this process of assimilation, many of the classical philosophical doctrines has been modulated by Acharya Charaka in accordance with his own distinct philosophical view to fulfill the primary object of Ayurveda - maintenance of health as well as alleviation of disease. Pramana or source of knowledge as described

by Acharya Charaka reflects the thoughts of Nyaya philosophy but their arrangements follows the Samkhya tradition. Although Acharya Charaka has accepted four types of principal Pramana i.e. source of knowledge such as Aptopadesha, Pratyaksha, Anumana, and Yukti but he has given more importance on the first three sources of knowledge. Again along with these sources, he also has briefly described the various other Pramana such as Aoupamya, Aitihya, and Arthaprapti. In the description of each Pramana, Acharya Charaka has given outmost importance to their application in clinical medicine and given such multiple clinical example about how to apply all these Pramana to obtain knowledge about diseases and medicaments. The present critical analysis of all these Pramana as described in Charaka Samhita will give us a clear and compact illustration about how the "theory of knowledge" has been followed in Charaka Samhita. Understanding this "theory of knowledge" or epistemology followed by Charaka Samhita will help us to implement them for better understanding of the subject and their subsequent clinical application for the benefit of mankind.

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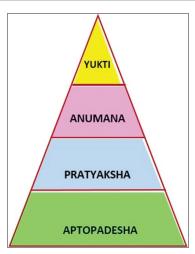


Figure 1: Pyramid of epistemology as propounded by Charaka Samhita