CHAPTER III

SCIENTIFIC HERITAGE OF NYĀYA-VAIŚEṢIKA AND ĀYURVEDA AN - APRAISAL
Curiosity, it drive to find answers to fundamental questions is the oldest and most persistent of human interests. This had led man since times immemorial to find out as to how-this universe, with its manifold manifestations, has come into being, what it mode of, how is it sustained and what will be its condition in nature. Their views recorded in religious and philosophical literature, are available with the mankind. These mental pathways of answering the questions termed as philosophical, religious and scientific, and which are not necessarily antagonistic to each other.

Later the scientific methods can be described on the method of findings the laws of nature by making the observations with instruments leading to guesses, called hypothesis, which are them tested by means of experiments and mathematical calculations. This has given men not only understanding of the world but also a large measure of control
on it. Science is associated with the concept of specializations, experimental method, mathematical languages and demonstrations or proof.

But in early to modern the philosopher as philosopher doesn’t pretend to have the capacity to establish all his contentions by means of experimental method and for mathematical reasoning. But this is not to say that the philosophers doesn’t take experimental results and mathematical languages serious in to account. On the contrary he is interested not only in experimental findings of science and their mathematical formulations but also in the pre-systematic commences view of the world and its endless odd things.

**Nyāya- Vaiśeṣika theory of Epistemology.**

Our philosophical contribution to the origin and growth of knowledge is not only enormous but also unique. There is no any yardstick to measure and method to compare it with other
countries. One will find that India enjoys a very high and prestigious position in this respect. Our old scriptures, the great ‘Vedas’ Upaniṣads’ and ‘Purāṇas’ are the main contribution of this civilization. These are filled with philosophical and mystical interpretation of knowledge.

The source of knowledge has predominantly focused to the epistemological discussions. Indian epistemologists unanimously hold that the knowledge is characterized as a mental episode. It is not an activity but a product. It is far from being a mental state, for the mind is only one of the namely knowledge inheres in it. Knowledge is a collection of casual conditions.

Like all production, therefore, knowledge too is occurent, i.e., arises in time and replaced by others. In the classical Indian context, knowledge is treated as a species of awareness or cognition (jñāna) not of belief. Epistemology is the study of the
nature, defining features, the real conditions and limits of
knowledge. The word epistemology is derived from the Greek
words, ‘epistem’, means knowledge- ’logos’ means study of
science. So epistemology is the study of the knowledge.
Epistemologists usually make a distinction between normative
and descriptive epistemology. The descriptive epistemology is
about how awareness first arises and what mental operations
disclose in leading us to knowledge. ‘To Know’ in general
means perceived, understood, inferred etc.

In Indian philosophy the term jñāna stands for all kinds of
cognition irrespective of the question of truth and false hood. It
is simply an act of awareness. Any act of awareness which has
intentionally constituted a jñāna. Enter a doubt, vaguely sensing
the presences of something or other drawing a reductio-ad-
absurdum inference are all jñāna.
The different schools of Indian philosophy are not unanimous about the nature and numbers of the means of valid knowledge. The materialist (Cāravāka) admit only one means of right knowledge viz., perception. The Buddhist and Vaiśeṣika accepted only two, perception and inference. Sāṅkhya and Yoga accepted three means of right knowledge, perception, inference and verbal testimony. While the Naïyāyikas whose fundamental work Nyāya-Sūtra admits four, Viz., perception, inference, comparison, testimony. Jaimini in his Mīmāṃsa Sūtra accepted three means of right knowledge. The followers of Mīmāṃsa accepts five means of right knowledge including presumption (Arthāpathī). The Bhāṭṭa and Vedāntins admit a sixth viz. none-existence and the Paurāṇikās recognize a seventh and eighth means of right knowledge.

Among them however, Nyāya differs from them and they took great pains to identify valid sources of knowledge and to
distinguish these from mere false opinions. According to the Nyāya School, there are four sources of knowledge (Pramāṇas): Perception, inference, comparison and verbal testimony. Knowledge obtained through each of these can, of course, still be either valid or invalid. As a result, Nyāya scholars again went to great pains to identify, in each case, what it took to make knowledge valid, in the process creating a number of explanatory schemes. Let us consider them in its detailed form.

Perception (pratyakṣa).

According to Nyāya knowledge is an apprehension (upalabdhi) or consciousness (anubhava). Nyāya being realistic believes that knowledge reveals both the subject and the object which are quite distinct from itself. All knowledge is a revelation or manifestation of object (arthaprakāśobuddhi). According to Nyāya it may be valid or invalid.¹ Valid knowledge (pramā) is defined as the right apprehension of an
object \((yathārthānubhavaḥ)\). It is produced by four means of knowledge, perception, inference, comparison and testimony.\(^2\) Invalid knowledge include memory \((smṛti)\), doubt \((samśaya)\), error \((viparyaya)\) and hypothetical reasoning \((tarka)\).\(^3\)

Among the four means of right knowledge perception called \(pratykṣa\) occupies the foremost position in the list of Nyāya epistemology. According to Goutama perception as an ‘non-erroneous cognition which is produced by the intercourse of the sense-organs with the objects, which is not associated with a name and which is well-defined’.\(^4\) This definition of perception excludes divine and yogic perception which is not generated by the intercourse of the sense-organs with the objects. Hence Viśvanātha has defined perception as ‘direct or immediate cognition which is not derived through the instrumentality of any other cognition.’\(^5\) This definition includes ordinary as well as extra-ordinary perception and
excludes inference, comparison and testimony. Perception is a kind of knowledge and is the attribute of the self. Ordinary perception pre-supposes the sense-organs, the objects, the manas and the self and their mutual contacts. The self comes into contact with the manas, the manas with the sense organs with the objects. The contact of the sense organs with the objects is not possible unless the manas first comes into contact with the sense-organs, and the contact of the manas with the sense-organs is not possible unless the self comes into contact with the manas. Hence sense-object contact necessarily presupposes the manas -sense contact and the self-manas contact. The sense organs are derived from the elements whose specific qualities of smell, taste, colour, touch and sound are manifested by them. The manas is the mediator, between the self and the sense-organs. The external object, through the
senses and the *manas*, makes an impression on the self. The theory, therefore, is realistic.

*Naiyāyikas* maintains other two stages of perception, named indetermined or *nirvikalpa*, and determined or *savikalpaka*. They are not two different kinds of perception, but only the earlier and the later stages in the same complex process of perception. These two stages are recognized by Goutama in his definition of perception quoted above. Perception is unassociated with a name (*avyapadeśa*) which means ‘indeterminate’ and ‘well defined’ (*vyavasayātmaka*) which means ‘determinate’. All perception is determinate, but it is necessarily proceeded by an earlier stage when it is indeterminate. According to *Nyāya* perception is a complex process of experience involving both sensation and conception. All perception we have is determinate because it is perceptual knowledge or perceptual judgement. Sensation is the material
and conception is the form of knowledge. Bare sensation or simple apprehension is nirvikalpaka perception is the immediate apprehension, the bare awareness, the direct sense experience which is undifferentiated and non-relational and is free from assimilation, analysis and synthesis.

Indeterminate perception presents the bare object without any characterization. In determinate perception we relate the substance with its attributes. The feeling of indeterminate perception is psychological, but its knowledge is logical. As bare awareness as mere apprehension, we sense indeterminate perception, we feel it, but the moment we try to know it even as ‘bare awareness it has passed into conception and has become determinate. Hence all our perception being a cognition is determinate and is a perceptual judgment. We can separate indeterminate from determinate perception only in thought and not in reality.
Vātsyāyana says that if an object is perceived with its name we have determinate perception, if it is perceived without its name, we have indeterminate perception. According to Jayanta Bhaṭṭa that indeterminate perception apprehends substances, qualities and actions and universal as separate and indistinct something and is devoid of any universals as separate and indistinct something and is devoid of any association with a name, while determinate perception apprehends all these together with a name. Gaṅgeśa defines indeterminate perception as the non-relational apprehension of an object devoid of all association of name, genus, differentia etc. Annam Bhaṭṭa defines it as the immediate apprehension of an object as well as of its qualities, but without the knowledge of the relation between them.\textsuperscript{7}

Perception, again, may be ordinary (laukīka) or extra-ordinary (alaukīka). When the sense organs come into
contact with the objects present to them in the usual way, we have *laukīka* perception. And if the contact of the sense-organs with the objects is an unusual way, i.e., if the objects are not ordinarily present to the senses but are conveyed to them through an extra ordinary medium, we have *alaukīka* perception. Ordinary perception is of two kinds internal (mānasa) and external (bāhya). In internal perception, the mind (manas) which is the internal organ comes into contact with the physical states and processes like cognition affection, conation, desire, pain, pleasure, aversion etc. External perception takes place when the five external organs of sense comes into contact with the external objects. It is of five kinds—visual, auditory, tactual, gustatory, and alfactory, brought about by the sense organs of sight, sound, touch, taste and smell respectively when they come into contact with the external objects. The external sense-organs are composed of material elements of earth, water,
fire, air and ether and therefore each senses the particular quality of its element. Thus the sense-organ of smell is composed of the ātoms of earth and perceives smell which is the specific quality of earth and so on.

Extra-ordinary or alaukīka is of three kinds sāmānyalakṣaṇa jñānalakṣaṇa and yogaja. Sāmānyalakṣaṇa perception is the perception of the Universals. According to Nyāya the universals are a distinct class of real. They inhere in the particulars which belong to different class on account of the different universals inhering them. An individual belongs to a particular class because the universal of that class inhere in it. Thus a cow becomes a cow because it has the universal ‘cowness’ inhering in it. Ordinarily we perceive only the particulars and not the universals. We perceive particular cows but we do not perceive a ‘universal cow’. Hence the Nyāya maintains that the universals are perceived extraordinarily.
Whenever we perceive a particular cow we first perceive the
‘universal cowness’ inhering in it. The second kind of extra-
ordinary perception is called *jñānalakṣaṇa* perception. It is the
‘complicated’ perception through association. Sometimes
different sensations become associated and form one integrated
perception. Here an object is not directly presented to a sense
organ, but is received in memory through the past cognition of it
and is perceived through representation. For e.g., I look at a
blooming rose from a distance and say, ‘I see a fragrant rose’.
But how can fragrance be seen, it can only be smelt. Fragrance
can be perceived by the sense organ of vision which can
perceive only colour. Here the visual perception of the rose
receives in the past through the nose. The perception of the
fragrant rose through the eye, therefore, is called *jñānalakṣaṇa*
perception or perception revived in memory through the
cognition (*jñāna*) of the object in the past.
The third kind of extra-ordinary perception is called *Yogaja* perception. This is the intuitive and immediate perception of all objects, past present and future, possessed by the *yogins* through the power of meditation. It is like the *kevalajñāna* of the Jainas, the Bodhi of the Buddhists, it is intuitive, supra-sensuous and supra-relational.

**Inference (Anumāna):**

Inference called *Anumāna*, is one of the most important contributions of *Nyāya*. It can be of two types. inference for oneself (*Svārthānumāna*) and inference for others (*Parārthanumāna*). Inference can also be classified into 3 types *Pūrvavat* (Inferring an un-perceived effect from a perceived cause). *Śēṣāvat* (inferring an un-perceived cause from a perceived effect) and *Sāmānyatodrṣṭa* (when inference is not based on causation but on uniformity of co-existence).
Theory of inference.

Anumiti or inferential knowledge is that knowledge which is derived from another kind of knowledge. It is by invariable concomitance.

Some say that there is no separate means of knowledge called inference other than perception. Nyāya oppose this view and admits inference. They present several arguments in support to admit inference. The inferential knowledge is based on invariable concomitants. There is two types of Vyāpti, Pūrvapakṣa Vyāpti and sidhānta Vyāpti.

Inference of Oneself (Svārthānumāna)

‘One inference for oneself that svārthānumāna, a person having himself repeated observe in the kitchen and other places invariable con-comitance of smoke and fire goes on near a hill and sees smoke on it, there he recollect that wherever is smoke—there is fire. There up on knowledges arise in that this hill was
smoke which is in invariable concomitance with fire. This knowledge is called consideration of liṅgaparāṁśa. From this knowledge follow is that this hill has fire this is call inferential conclusion (Anumiti). This is the process of inference for one self.

Inference for the sake of others (Parārthānumāna)

A person having infer fire from smoke, demonstrate it to others by the employment of a syllogism, is called inference for the sake of others. For example, this hill is full of fire (Parvato vahnimān) because it is full of smoke. (धृमचत्वात्). All that full of smoke is full of fire. This hill is full of smoke. Therefore this hill is full fire by these produces consideration of sign and by it

Syllogism

The name for a collection of five sentences which give rise to knowledge that produces considerations.
Parts of Syllogism (*Avayava*)

A part or member that give rise to knowledge which contributes to the perception of an entire knowledge which produces considerations. On the employment of the give sentences at first that arises of knowledge, then the five sentences combine together there arises consideration the parts are proposition, reason, example, application and conclusion.

The methodology inference involves combination induction and deduction by moving from particular to particular via generally. It has five steps. i.e., Proposition, reason, example etc are mentioned above.

**Proposition – (Pratijña)**

This is a sentence which comes knowledge it give rise to an enquiry necessitating the mention of reason.\(^\text{15}\) It is used.

It is used as the first part of syllogism.

E.g. The hill is full of fire.
Reason – *(Hētu )* 

The reason is a word which contribute to the production of the entire knowledge that give rise to consideration.\textsuperscript{16} Eg. Because it is full of smoke. The reason is two kinds. The affirmative *(Anvayī)* second Negative *(Vyatirekī)*.

Example *(Udāharāṇa)* 

The example is a word, which will producing knowledge of connection of the form that focus of middle-term occupied by the major term.\textsuperscript{17}

Eg. All that has smoke has fire as a kitchen.

Application - *(Upanaya)*, The application is a member which produces consideration.\textsuperscript{18}

Eg. All that smoke has fire. This hill has smoke

Conclusion – *(Nigamana)*. Conclusion is a sentence which relates proposition.\textsuperscript{19} E.g. In this hill there is smoke, which is
invariable con-comitance with fire. Therefore in this hill there is fire or there for this hill is full of fire.

In *Nyāya* terminology for this example, the hill would be called as *Pakṣa* (minor term), the fire is called as *sādhya* (major term), the smoke is called as *hetu*, and the relationship between the smoke and the fire is called as *Vyāpti* (middle term). *Hetu* further has five characteristics: (1) It must be present in the *Pakṣa*, (2) It must be present in all positive instances. (3) It must absent in all negative instances, (4) It must not incompatible with the minor term or *Pakṣa* and (5) All other contradiction by other means of knowledge should be absent.

The Fallacies of *Anumāna* (*hetvābhāsa*) may occur due to the following.

I. Fallacies of reasons. (*Hetvābhāsa*)

A person can ascertain truths and achieve victory by exposing fallacies in the argument of its opponent. A fallacy is
an object of knowledge which obstructs an inference. In brief it
is a defective reason or of fallacies of reason it is five kinds (1)
Un-certain or erratic (Savyabicara or Anaikata), (2) The
contradictory ( Virudha), The counter balance (satpratipakṣa)
(4) The un-proved (Asidha), (5) in –compatible (Bādhita)²⁰

a. The erratic reason – (Savyabicāra)

The erratic is a reason in which abides a character, the
possession of which cause the presence of this alternatives
which produces doubt in the major term the erratic reason.

b. General - (Sādhāraṇa)

A. reason must be general if it abides in the locus of the
major term as well as in that of its absence eg. : This hill is full
of smoke because it is full of fire.

Here the reason ‘fire’ abides in the region of smoke ( as
in the kitchen) as well as in the region of the absence of smoke (as in the ignited) in iron ball.
c. Non-general (*Asādhāraṇa*)

A Non-general reason must be called it abides in the locus of the major term. Non in that of its absence. Eg. The hill is full of smoke because it is full of ether. Here reason is ether, which has no locus. *Ether* abides neither to the locus of fire nor in that of the absence of fire.

d. Non-exclusive (*Anupasamhāri*)

A reason is said to be non-exclusive, if it is justified of an example, whether affirmative or negative E.g., All things are impermanent because they are knowable. Here all things is the subjects.

II. Contradictory – reason (*virudha*)

The contradictory reason is the counter part of that non – existence which constantly accompanies the major term Eg. The hill is full of fire because it is full of water. Here the reason is contradictory in as much as water is the counter part of the non
– existence of the water, which constantly accompanies fire. It may be also called 1a reason, which is constantly accompanied by the absence of the major term.

III. The Counter balance. (Satpratipakṣa)

It is that were a reason which seeks to establish the existent of the major term, then occur the consideration of another reason is a counter balanced one. In fact both are counter balance. Eg. Sound is eternal because it is audible. Sound is not eternal because it is a product.

IV. The un-proved reason.

It is of three kinds 1. Un-proved on the part of its locus or subject (Āśrayasidha), 2. Unproved with which regarded as its own nature (svarūpa sidha), unproved in respect of accompaniment (vyapyatvasidda)

Āśrayāsidha: - A reason is said to be unproved on the part of its locus, if the characteristics distinguish in the locus doesn't
belong to it. Eg. The golden hill is full of fire because it is full of smoke.

Here the reason smoke is un-proved, goldness doesn't belongs to hill,

_Svarūpāsiddha_. A reason is said to be un-proved with regard to its own nature, if it doesn't abide in the locus. Eg. The lake is full of smoke

Here the reason is un-proved, as smoke from its very nature doesn't abide in a lake.

_Vyapyatvāsiddha_: A reason is to be unproved in respect of constant. Accompaniment, If its generic nature does not useful in establish its invariable con-comitance with major term proved is in respect of Invariable con-comitance which occurs when there is a condition attached to the reason. Eg. The hill is full of smoke, because it is full of fire nourished by wet fuel.
V. In Compatible reason- \((kālāṭīta)\) \((Bādhita)\)

An in compatible reason occurs when there is the knowledge of the major term which is assigned the minor term, doesn't really abide in it. eg. Fire is cold, because it is substance.

*Upamāna*, or comparison

Comparison is the knowledge of thing through its similarity to another thing previously well known.\(^2\) A man who doesn't know the signification of the word *gavaya* hearing an elder man the word *gavaya* signifies an animal which is like a cow, goes into a forest where he sees an animal like a cow, reflecting the instructive assertion of the older, which he arrives at the conclusion that the animal which he sees is the think signifies by the word *gavaya*. This conclusion is called comparison or *upamāna*. The intercourse or operation ( *vyāpara*), in the case of comparison consist in the re-collection of the instructive assertion of the elder, viz., the *gavaya* signifies an animal which
is like a cow. The result of comparison is the knowledge of the
relation of the name to something so name.²²

Some say that comparison is not a separate means of
knowledge, it is perception of inference. it is rejected by
Gaṅgeśa. In comparison their arise this self consciousness of the
form 'I compare, but not of the form I infer'.

Śabda (verbal testimony)

The fourth kind of valid knowledge is śabda²³ or Āgama or
authoritative verbal testimony. Its means is also called śabda. It
is defined as the statement of a trustworthy person (aptavākya)
and consists in understanding its meaning. A sentence is defined
as a collection of words and a word is defined as that which is
potent to convey it meaning. The power in a word to convey its
meaning comes, according to ancient Nyāya from God, and
according to later Nyāya, from long established convention.
Testimony is always personal. It is based on the words of a
trustworthy person, human or divine. Testimony is perfect and infallible because the Vedas are spoken by God, secular testimony, being the words of human beings who are liable to error, is not infallible.\textsuperscript{24}

The theory of Śabda pramāṇa it is a word is a potent symbol which signifies an object and a sentence is a collection of words. But a sentence in order to be intelligible must conform to certain conditions. These conditions are four, ākāṅkṣa, yogyata, sannidhi and tātparya.\textsuperscript{25} The first is mutual implication or expectancy. The words of a sentence are interrelated and stand in need of one another in order to express a complete sense. A mere aggregate of unrelated words will not make a logical sentence. It will be sheer nonsense, e.g., 'cow horse man elephant'. The second condition is that the words should possess fitness to convey the sense and should not contradict the meaning. 'Water the plants with fire' is a contradictory sentence. The third
condition is the close proximity of the words to one another. The words must be spoken in quick succession without long intervals. If the words 'bring', 'a', and 'cow' are uttered at long intervals they would not make a logical sentence. The fourth condition is the intension of the speaker if the words are ambiguous. For example, the word 'saindhava' means 'salt' as well as a 'horse'. Now, if a man who is taking his food asks another to bring 'saindhava', the latter should not bring a horse.

It is stated that the Nyāya system of philosophy establishing that the identity, of any phenomenon, or object in this world, they are identified by the four means of knowledge of the perception, inference, comparison and testimony. It is since from Goutamas theory of epistemology.

Formal logic in India begins with the appearance of the famous Nyāya-sūtra of Gautama, because it contains discussions about inference (Anumāna) but it cannot be considered to have
achieved much development. Though *vyāpthi* has not been dealt with in depth, it is significant that it considers abstract thinking about arguments. Though thought currents in this line should have existed, Goutama was the earliest *ācārya* who sharpened and arranged the whole matter in to a system. The continuing phase in logical thought in India extended for about a thousand years. The next phase of Indian logic is that of *Navya-Nyāya*, which starts with the appearance of the famous book *Tattvacintāmani* by Gaṅgeśa. A man's specialties of *Tattvacintāmani* are it gives more prominence to pramāṇa than dialectical topics. Gaṅgeśa accepted *Pratyakṣa Anumana*, *Upamāna* and *Śabda* as the four means of knowledge and has elaborately discussed these four means. His discussion of inference is particularly significant. This *Navya-Nyāya* style school of logic become an independent science, as well as a
method and instrument for scientific cognition. Theories and methods of *Navya-Nyāya* logic are little known outside India.

**The *Nyāya* theory of Causation**

A cause is defined as an unconditional and invariable antecedent of an effect and an effect as an un-conditional and invariable consequent of a cause. The same cause produces the same effect, and the same effect is produced by the same cause. The cause is not present in any hidden form whatsoever in its effect.

The following conditions should be met.

1. The cause must be antecedent (*pūrvavṛtti*)

2. Invariblility (*Niyata Pūrvavṛtti*)

3. Unconditionality (*Anyatāsidha*)

*Nyāya* recognizes 5 kinds of accidental antecedents (*Anyatāsidha*)
a. Mere accidental antecedent.

E.g. The color of the potter's cloth

b. Remote cause is not a cause because it is not unconditional

E.g. The father of the potter

C. The co-effects of a cause are not causally related

d. Eternal substances or eternal conditions are not unconditional antecedents. E.g space.

e. Unnecessary things, e.g. the donkey of the potter.

Nyāya recognises 3 kinds of causes

1. Samavāji - material cause Eg. Thread of a cloth.

2. Asamavāji - Colour of the thread which gives the colour of the cloth.

3. Nimitta - Efficient cause. E.g., the weaver of the cloth.
It is explained that, a cause is defined as an unconditional and invariable antecedent of an effect and effect as an unconditional and invariable consequent of a cause. The same cause produces the same effect and same effect is produced by the same cause. Plurality of cause is related out. The first essential characteristic of a cause is it is antecedence; the fact that it should precede the effect (purvāvṛtti). The second is its invariability; it must invariably precede the effect (Niyatapūrvavṛtti). The third is its un-conditionality or necessity; it must unconditionally precede the effect (anyatāsiddha). Unconditional antecedence is immediate and indirect antecedence and excludes the fallacy of remote cause. Thus we see that in Western inductive logic and Nyāya philosophical definition of a cause is same.

Nyāya recognizes five kinds of accidental (anyatāsidha) antecedents which are not real cause. Firstly, the qualities of a
cause are mere accidental antecedent. The colour of a potter's staff is not the cause of a pot. Secondly, the cause of a cause or a remote is not unconditional. The potter's father is not the cause of a pot. Thirdly, the co-effects of a cause are themselves not causality related. The sound produced by the potter's staff is not the cause of a pot, though it may invariably precede the pot. Night and day are not causally related. Fourth, eternal substances like space are not un-conditional antecedents. Fifth, the unnecessary things like the potter's ass are not un-conditional antecedents; though the potter's ass may be invariably present when the potter is making a pot, yet it is not the cause of the pot. A cause must be an unconditional and necessary antecedent. Nyāya emphasizes the sequence view of causality. Cause and effect never simultaneously. Plurality of causes is also wrong because causal relation is reciprocal. The same effect cannot be produced by any other cause. Each effect has its distinctive
features and has only one specific cause. *Nyāya* regards it, a cause as the 'sum total of the conditions, positive and negative, taken together's.

Thus *Nyāya-Vaiśeṣika* view of causation, it directly opposed to the *Śāṅkhya-Yoga* and *Vedānta* view of causation called *Satkāryavāda*. In *Nyāya* system is called *Asatkāryavāda* or *Āraṃbhavāda*. The effect (*kārya*) is non-existent (*asat*) before its creation and is a new beginning (*āraṃbha*), a fresh creation, an epigenesist. It is distinct from its cause and can never be identical with it. It is neither an appearance nor a transformation of the cause. It is newly brought into existence by the operation of the cause.

There are other three kinds of causes-*samavāyi, asamavāyi, nimitta*. The first is the *samavāya* or the Inherent cause, also called as the *upādhāna* or the material cause. It is the substance out of which the effect is produced. For e.g. the
threads, are the inherent cause of the cloth and the clay is the inherent cause of a pot. The effect inheres in its material cause. The cloth inheres in the threads.\textsuperscript{26}

\textit{Nyāya-Vaiśeṣika theory of atomism.}

The \textit{Vaiśeṣika} school was early realistic school whose main achievement lay in its attempt at classifying nature into like and unlike groups. It also posted that all matter was made up of thing and indestructible particles. i.e., ātom that aggregated in different ways to form new compounds that formed the variety of matter that existed on the earth. The great atomists of India, Kaṇāda, and Gautama, who stated that the root cause of the universe is the atoms. To them as to modern physical science, the \textit{paramāṇus} are the ultimate basis entities of matter and these combine variously. The \textit{Nyāya-Vaiśeṣika} said that the effect doesn’t pre-exist in its cause, i.e., the effect is a new beginning, a fresh creation. It presuppose a cause, but the effect is not
contained in the cause nor is it identical with the cause. This doctrine is also known as Āraṃbavāda or Paramāṇu vāda.

We find that the material objects of the world are composed of parts and subject to production and destruction. They are divisible into smaller parts, by this logic we have to accept the minutest particle of matter which not may be further divisible. This indivisible partless and eternal particle of matter is called an atom. All physical things are produced by the combinations of atoms. Creation means the combination of atoms in different proportions and destruction means the dissolution of such combinations.

Nyāya-Vaiśeṣika had a glorious past of 2500 years of active participation in propounding a hypothetical model of 'atom', the origin, their position in space, their own energy, and their various types of combinations in forming the matter of earth, water, fire and air. It is a well established fact that some of
the prominent Indian logicians, especially non-vedic, are realists and they believe in the reality of the external world and they also feel it necessary to offer a satisfactory explanation for its origin. It leads many of them to the atomic hypothesis in the form of $aṇu$ and $paramāṇu$. The Vaiśeṣika school may be said to be the foremost champion among the atomist in Indian philosophy. From a very early period of C. 7th century BC to the seventieth century A.D. through their numerous commentaries and independent works, they have tried to develop the atomic view and put it on a firm logical foundation, fighting against the onslaught of the anti-atomist. This school was based a system not atomism, explaining the cosmic process in which the soul was involved. The first stage in this process was the recognition of the worlds atomic character. The universe was an infinitely complex and endlessly changing pattern of atoms, more scientifically it is molecule ($aṇu$) combining and dissolving
according to regular principles. At the end of the cosmic cycle the atoms or molecules reverted to a state of complete equilibrium from which they only emerge at the beginning of the next cycle. as the raw material of a new cosmos. In modern science this phenomenon is accepted (known as big bang theory). The modern cosmological theory explained that all the matter and energy in the universe originated in a super house agglomeration that exploded at a finite moment in the past. By this very fact it is also called as super dense theory of the origin of matter in the universe.

The Vaiśeṣika sūtra of Kaṇḍa, there we find the word Āṇu but not the word paramāṇu is the sense of ‘atom’ as well as very ‘small’ but not molecule. In the absence of any other early commentary there is no doubt that we have in the Vaiśeṣika-sūtra a fairly developed form of the atomic theory. Thus, for instance, Kaṇṭha offers indirect arguments to prove the
important of ātom, enumerates their qualities, specifies their dimension as globular \(parimāṇḍala\), points out that the qualities of earth-atoms are changed by heat \(pākaja\) and also distinguishes the various uses of the word \(aṇu\).

**Peelupāka or chemical change**

Peelu means \(paramāṇu\) or ātoms, and \(pāka\) means the transformation or change brought about in their relationship under the influence of heat and light. The \(Vaiśeṣika\) concept of the changeability of one atom by heat is still not experimentally proved by modern science. Because in modern concept heat is a type of energy by which state of a matter can be changed from solid to liquid and from liquid to gas but not the nature of atom. Therefore in Kaṇāda concept, heat is different from modern heat.

The \(paramāṇu\)'s (atoms and molecules) do not occur In nature in an uncombined state, and (II) they combine in twos, threes four and so on, to form molecules of \(dwyaṇukās\),
Trayaṇukās, chaturāṇukās etc, become significant triad is the smallest visible substance. For instance two earth ātoms or two water atoms may combine to form an earth dyad or a water dyad, but an earth atom conjoined to another water atom will not produce a new substance. In modern chemistry this phenomenon is known as valency.

The Vaiśeṣikas note that paramāṇus always combine under the influence of heat and light or tejas, which is of two kinds viz., endothermic and exothermic. The observed difference between one substance and another, or in fact, between all substances in regard to their colour, consistency, roughness, smoothness, etc. is held to be due to what is known as pākabheda or difference in chemical reactions.

For example, in the process of the baking of a raw clay pot by a potter, quick succession of changes are observed to take place in the material of the pot, in respect of its colour, density,
consistency etc. similar, to changes that take place during the process of the cooking of food. The *Vaiśeṣikas* interpret and explain the successive phases of transformation and change, as due to the decomposition of the constituent molecules of the material of the pot into their component atoms (*paramāṇus*) and their subsequent recombination under stored spatial relationship, different from their original disposition in the material of the raw clay pot before the same was subjected to the action of heat. The entire process by change in the molecular and atomic alignment is stated to take place in three consecutive steps viz., (1) the decomposition of the material of the pot into its molecules, in the first stage. (II) the decomposition of the molecules into their constituent *paramāṇus* (III) The recombination of the *paramāṇus* in new relationship and altered spatial alignment into molecules of two *paramāṇus*. *Dwaṇukas* : into molecules of three
paramāṇus – Trayaṇukas, and into molecules of four paramāṇus – chatvaraṇukā and so forth.

Thus in the finished baked pot, the spatial relationship that originally existed between one paramāṇu and another in the material of the original unbaked clay pot is attended, and all together new relationships and established, resulting in the exhibition of new properties, in respect of colour, density, consistency etc. of the baked pot.

It is now clear that the Indian atomism was much more clear from a very ancient time, it played on unimaginatively long innings in Nyāya-Vaiśeṣika. It gained attention in with its sharp and sophisticated logic Nyāya-Vaiśeṣika theory of atomism without any experimental background, get idea only in highly talented logic with a commitent of naturalistic explanation the material world still won recognition with the modern science.
The Vaiśeṣika school further declare that there is no other root cause of the universe than *paramāṇus*. In this view, which is known as the Āraṃbavāda or theory of commencement, the union or the combination of the elementary particles of *paramāṇus* results in the production of diverse forms of things.

Let us consider some theories of Āyurveda.

**Pañcamahābhūta Theory**

Everything in the world is composed of five elements named *pañcabhūtas*. Thus the composition of human body is also of *pañcabhūtas*. The foundations of Āyurveda developed on this spiritual basis. A knowledge of the five basic elements makes it possible to classify substances. Āyurveda accepts five physical elements which are part of everything. Each object is different because it possesses the elements in varying ratios in comparison to other objects. These five elements called *pañcamahābhūtās*. 
For understanding one's own body, one must understand the five elements, called earth (पृथ्वी), water (जल), fire (अग्नि), air (वायु), and ether (आकाश). Every substance in this world is made up by these elements can classify all substances in this world is made up of these five elements present in them Earth represents the solid state, water the liquid state, fire, the power to convert the state of any substance; air the gaseous state, and ether, the source by all matter and the space in which it exist. Ether does exist, but at the same time it also seems that it doesn't.

Āyurveda described a human being as the assemblage of the five basic elements plus the innerself. In a living being earth is represented by hardness, water by moisture, fire by heat air by the vital breathing and space is the dwelling place of the self spirit.
Qualities of each element

Earth: A substance that is innately, hard, dry, static, slow and coarse is made up primarily of the earth element.

Water: This is liquid, sticky, mobile, cold, soft, heavy and slow is made up primarily of water element.

Fire: A hot, dry, quick, fine, light, coarse, and clear is made up primarily of the five element.

Air: A light, fine, clear, dry, cold substance is made up primarily of the air element.

Ether: A substance that is smooth, fine, soft, clear is substantially composed of ether element.

Nature of each element.

Earth. all solid body parts such as bone, cartilage and that give support to the organism are mainly earth in nature.
Water liquid, vicid material, fat, vital body liquids like blood, mucous, lymph, semen, are predominantly watery in character.

Fiery these substances in the body are digestive secretions, endocrine secretions, body heat and materials that produce radiance in eyes and skin and in addition awareness of the brain.

Airy everything involved in movement, mobile and especially pertains to the activities of the nervous system is airy in nature.

Ethery all channels through which things pass. It may be lymph and blood vessels pores and organs of the gut or nerves (as nervous impulses) are ethereal.

All substances, food or drug, that enters a human being must be converted into a form the organism can utilize.

Āyurveda pays due attention to human genetics. Bodily and mental characteristics of the future child are supposed to be
predetermined, some derived from the father, other from the mother. In Āyurveda human body is the modification of the five elements, ether, air, fire, water, and earth, and it is also the seat of consciousness (cetana).

The role of Pañcamahābhūtas in the formation of human body

A human body is regarded as a modification of the five elements ether, air, fire, water and earth, and it is also the seat of consciousness (cetana) the puruṣa is in infinite in number, each a disembodied soul capable of penetrating anywhere in space, when such soul inters into the complex by sperm and ovus, formed by the act of mating, it immediately endows the impregnueds matter with its own attributes of consciousness, perception, creative ability, volitional movement and the faculties of observation, knowledge, self expression, and self maintenance. The three guṇas also are imparted by the karmapurūṣa Through in varying proportions, so that men
difference in character and ability. But the *puruṣa*, transformed into the individual *karmapuruṣa*, remains unchanged in essence, because it is eternal and immutable.

This life, as we understand it, commences at the moment when the minute particle of fertilized ovum gains the above attributes - this particle is immediately propelled by *vāyu* into the uterus. to stay there until it is again propelled out of the mothers body by *vāyu* at the time of temporal birth.

If the *kṣetrajña* does not by its own volition enter into the go to, no life is created and conception fails to occur. Hence the process of fertilization by the act of mating is not sufficient for the creation of life, though a necessary precondition, and creation of life is not possible by unaided human endeavour. The intervention of the unknowable soul is necessary. This soul created its own body by gathering to itself the elements, first the ākāśa and then the others in due order, but in this and subsequent
acts in the life span, the *karma puruṣa* is subject to certain limitations due to the residual effects of *karma* of previous births.

Creation of life is possible only by the combined contributions of the soul and the parents who contributes their *bījās* (sperm and ovum) containing the essence of their mental and bodily constituents (as existing at the time) Infinitely minute replicas. A human womb, therefore, invariably reproduces a human child, but temporary differences existing at different times and the resultant of the opposed male and female principles make the children differ from each other and from their parents. Such factors also explain male and female births (by fragmentation of the egg to) individual characteristics, abnormalities and congenital diseases chosen by the *karma puruṣa* or inherited form the parents.

The growth, shape, energy vigor, and sense of contentment of the future individual depend upon nourishment and
environmental factors. The mental traits are determined by the quota of *guṇas* interrelated from previous birth.

It may be noted that this theory is in conformity with the continued identity of the germ-plasma through successive generations, though the actual individual may vary widely in mental and physical characteristics and also with the fact of continued mutations by accidents, infections and parental factors.\(^{28}\)

The *pañacamahābhūtas* play very important role in the formation of human body right from the time of fertilization along with the basic force of life, the *ātma* or soul or *cetanas*.

It is mentioned in *Suśruta saṃhitā* that along with *cetana vāyu* divide the *garbham* (fertilized ovum) *tejas* carry out the pacana (metabolism) *ap* gives moisture, *prthvi* solidifies and *ākāśa* provides space for Its enlargement. These kinds of processes will go on continuing that it later get developed with
distinct body parts as hands, legs, tongue, nose, ears, buttocks and will be termed as *sarīram*.

The three *doṣa* are vāyu or vātam pittam and kapham. these are also formed of the *pañcamahābhūtas*, vāyu is formed of ākāśam and vāyus ; Pittam is formed of tejas. Kapham is formed of ap and pṛthvi. The *sapta dhāthu* are rasam, raktam, māṁsam, medas, asthi, majja, and śuklam. The *mahābhūtas* present in different proportions in those dhātus as well.

The growth of the garbham (embriyo) also happens with the *pañcamahābhūta* itself.

**Organs developed from *pañcamahābhūta***

The sense organ are said to be the specific organs. Each sense made of predominance of each of the *mahābhūtas*. Each of
the bhūtas has got specific properties. sense of śabda (sound) is of ākāsa, sparśam (touch) is of vāyu, rūpa (shape) is of teja, rasa (taste) is of up and gandha (smell) is of pṛthvi mahābhūta. According to these properties specific organs are also formed with its predominance.

From ākāsa śrotasa (channels), śrotra (auditory system) and division, vāyu- sparśa (sense of touch), tvak (skin), uchvāsa (expiration) tejas-ḍṛk, eyes, rūpa (shape), pakti (digestion, metabolism), Ap - jihva (tongue), rasa - taste, kleda (moisture), pṛthvi- gandha (olfactory system), gandha (smell), asthi (bones),

This kinds of a body will undergo growth and development till young age and full maturity by middle age and afterwards towards, destroyal. The pañcabhūtūtmakasārīram will undergo destroy with the separation of the ātma or cetana that we call as death of the individual. The pañcamahābhūtas of that body will separate out and each part will join in that present in this world
and the person no more exist. So the *pañcamahābhūtas* are living materials as far as the certain exist in it.

**Three doṣa theory.**

According to *Āyurveda* this universe has originated from the five elements viz., *prthvi* (earth), *jala* (water), *agni* (Fire), *vāyu* (air), and *ākāśa* (space), and they only constitute our body. These first elements constitute the body in various distinct and in distinct form. viz., *Doṣa* (Metabolic components) *Dhātus* (vital component) and *malas* (eliminable end products)

In *Āyurveda* the function of human body are governed by three bio-regulating principles, namely *vāta*, *pitta* and *kapha*. When these three principle are in normal state (or in perfect balance) in the body they are called *Tridhātu*. However they are never seemed in perfect equilibrium in the body, hence they are called *Doṣas* because disequilibrium to the body is the root cause of disease. So these three bio regulating principles are commonly
called tridoṣa, which may be translated as the three main sources causing disease and Ayurveda always aims at keeping and equilibrium in the level of these things.\textsuperscript{30}

The Ayurvedic term humour is Doṣa, meaning that which darkens, spills or causes things to decay. When out of balance the humors are the causative forces in the disease process.

\textbf{Vātā}

The word meaning of vāta is to move. It contains a great deal of air and ether, which means they tend toward the qualities of coldness, lightness, coldness, motility, dryness and instability. These qualities may be experienced as feeling cold easily, having at thin body structure, dry skin, a tendency to move quickly difficulty staying focused and frequent changes of interest.

Vāta governs movement and is responsible for the discharge of all impulses both voluntary and involuntary. It works mainly through the brain and nervous system it sometimes
also translated as mind. In terms of etymology it means that which moves things. It is the motivating forces behind the other two humors, which are considered to be lame, incapable of movement without it. It also governs our sensory and mental balance, their orientation, and promotes mental adaptability and comprehension, It is also said to be composed of ether. It resides in the empty spaces of the body and fills up the subtle channels. It allows us to respond mentally to external and internal impulses. Fear and anxieties are its prime emotional derangements, which occur when we feel our life force is some hour treated or jeopardized. 

Pittā (Fire)

The biological fire-humor is called pittā, which means, what cooks. The constitution of pittā individuals contains a great deal of fire and a small amount of water. Fire cannot exist directly in the body but is held in hot liquids like the blood and
digestive fluids. For this reason, *pitta* contains a secondary aspect of water. Sometimes also translates as bile. Its etymological meaning is "that which digests things" it is responsible for all chemical and metabolic transformations in the body. It also govern our mental digestion. our capacity to perceive reality and understand things as they are *pitta* exists in the body as water or oil and so is said to contain an aspect of water. It exists mainly in an acid form, as fire cannot exist directly in the body without destroying it. Anger is its main emotional disturbance. Which is fiery, heat us up, and helps us defend ourselves from external attacks.

**Kaphā (water)**

The constitution of *kaphā* individuals contains great amounts of earth and water. The literally meaning of the word *kaphā* "What sticks" it contains a secondary aspect of earth as the boundary in which it is held. the skin and mucous membranes
kapha govern form and substrud and is responsible for weight cohesion and stability. Sometimes also translates as phlegm. Etymologically it means that which hold things together. It provides substance and gives support and makes up the bulk of our bodily tissues. It also provides our emotional support in life and governs such positive emotional traits as love compassion, modesty, patience and forgiveness. Our physical composition is mainly water which is contained with various boundaries of our skin and other tissue linings.

Qualities of humors

Each humor has its primary qualities. The doṣas are specific in their functions. Water is responsible for circulating, respiratory, excretory and digestive systems and for enthusiasm, speech, and sensuality, pitta for digestion, heat in the body, vision, hunger, thirst, taste, softness. of the body, pigmentation of the skin, luster, or the skin, intelligence, cheerfulness, and
courage, *kapha* for nourishment, visually, solidarity of the body, strength of the joints, sexual vigor, patience, forbearance and fortitude. The separation of limbs and the specificity of their functions even in the womb are due to *vāta*, the strengthening of the limbs is due to *pitta* and the nourishment of blood and semen is due to *kapha*.

The three *doṣas* are differentially related to the individuals own developmental stages, to the intake of food from external sources, and to the diurnal and climatic changes in the surrounding. In infancy and childhoods *kapha* prevails in the body. In youth *pitta*, and in old age *vāta*, when one begins to eat food, *kapha* becomes predominant, half way through *pitta* takes over and at the end *vāta*. In the morning, it is *kapha* that prevails, during midday *pitta* and towards evening *vāta*, likewise, in the first part of the night *kapha*, at midnight *pitta* and towards
dawn vāta. During the rainy season, vāta is aggravated, during autumn pitta and in spring kapha.

The normal balance and proportion of the doṣas are disturbed by articles of food, food habits, behavioral peculiarities, seasonal influence, aging process and accidental occurrences. The disturbances are manifested by characteristic symptoms. There are three possible conditions in which the balance of the doṣas may be disturbed. (a) one, two or three of the doṣas may suffer waning, diminution, reduction (kṣaya), (b) one, two or all three of the doṣas may increase or aggravate (vṛdhī) in the two stages by acceleration (prakopa) or accumulation (caya), and (c) a doṣa may leave its own area and move on to the area specific to another doṣa (Prasāra).³²

Locations of humors

All the three doṣas are present all over the body in their subtle forms and flow through all the channels (srotas).
However, each of them has specific areas in the body a special fields of action. Large intestine (Pakwāśaya) for vāta, stomach (āmāśaya) for pitta and heart (hṛdaya) for kapha. Secondary regions are urinary bladder, pelvic region, the things legs and bones for vāta, blood, sweat and lymph for pitta and head, neck, throat, joints, upper portions of the stomach and fat tissues for kapha, water in lower part, pitta in the middle part and kapha in the upper part. It is in these regions that the doṣas severally prevail, and that the morbidities of the doṣas are likewise manifested.³³

The five forms of humors.

Each of the three doṣas is regarded as having five functional varieties, each of which has specific locations

Vata the fire forms of water and called in sanskrit prāṇa udāna, samāna , vyāna, apāna, (1) prāṇa is responsible for the respiratory system, the function of the heart, sneezing
swallowing and mental functions. It moves about in the head, throat, chest, ears, eyes, tongue and nose.\textsuperscript{34}

(2) \textit{Udāna} (upward moving) with the tendency to travel upwards, is responsible for vocalizations, articulations, lustre of the body, and also for vivacity, enthusiasm, jealous effort and application. It is located in the chest and moves about around the nasal region, and also along the nasal passanges. (3) \textit{Samāna} (equalizing) is responsible for ingestion and digestion of food, absorption of the food essences, excretion of the waste products, regulation of body heat, perspiration and circulation of the other two \textit{doṣas} (viz., \textit{pitta} and \textit{kapha}). It is located very near the seat of agni (that is, the digestive tract and the duodenum) and moves about in the entire abdominal region.

\textit{Vyāna} (around moving) is responsible for all body movements (sensory-motor) regulating the related organs and muscles and for circulation of air within the body. It is located in
the heart, but moves about in the whole body with great speed, providing energy to the limbs and assisting the circulatory system

   (5) Apāna (downward moving) is responsible for the retention and discharge of urine, faces, semen and also for the regulation of menstrual flow in women. It also helps in the delivery of the baby from the mother’s womb. It is located mainly in the duodenum, relum end the urinary bladder.

II. Pitta. The five forms of pitta is called pāchaka. Rañjaka, sadhaka, ālochaka, and bhrajaka in sanskrit.35

   (1). Pācaka (cooking) is chiefly responsible for digestion of food. It is located in the stomach and small intestine.

   (2) Rañjaka (colouring) is responsible for the formation of blood by pigmenting chyle. It is located in liver, spleen, and stomach.
(3). *Sādhaka.* (accomplishing) is responsible for mental alertness, intelligence, cheer, memory and zeal. It is located in the heart.

(4). *Ālochaka* (visual) is responsible for vision (formation of optical images of objects). It is located in the eyes.

(5) *Bhṛajaka* (lustre-endowing) is responsible for the colour and luster of the skin. It is located in the skin all over the body.

III. *Kapha.* The five forms of *kapha* are called in sanskrit. "*Tarpaka, avilambaka, bodhaka, kledaka and śleṣaka.*

(1) *kledaka* (moisturing) is responsible for supporting and sustaining the heart by lubricating and protecting the organ, for nourishing the sacrum (*krika*) and for providing energy to the limbs. It is located in the heart and the sacrum

(3) *Bodhaka.* (aiding awareness) is responsible for the perception of taste. It is located in the tongue and
(4) *Tarpaka* (satisfying) is responsible for supporting and nourishing the sensory functions (organs of cognitions). It is located in the head.

(5) *šleṣaka* (joining) is responsible for protecting the joints of bones, holding them together. It is located in the articulations of bony joints.

**Remedial measures of the three humors**

According to *Āyurvedic*, source books 'vāta' (air) is treated by mild application of oils, mild sweating and purification methods by sweet, sour, safety and warm food, and by oil massage, by staying indoors, by firm guidance, by anointing the ages, by wine made from grain or sugar, by warm oil enemas, with sesame oil or meat or animal fat broths.

*Pitta* is treated with the ingestion of ghee (clarified butter) by purgation with sweet and cold herbs, by sweet bitter and astringent foods and herbs by application of cool, delightful and
fragrant essential oils, by the wearing of pleuron, gems around the neck, by frequently anointing the head with camphor and sandal wood and vert oils, it can also be treated by relaxing in the moonlight, by beautiful songs, by a cool wind, by unrestrained enjoyment by friends by a devoted son, by a beautiful and attractive wife, by ponds cool water by houses with large gardens, especially by loving emotions, and by milk and ghee as laxatives.

"kapha" (water) is treated by strong emetic and purgation method, food that is dry, little in quality, sharp not and bitter and astringent in taste, by old wine, by sexual enjoyment, by staying up at night, by all kinds of exercises, by mental activity, by dryer strong massage, by smoking of herbs and generally by taking pleasure in physical hardship. (A.H.)

In Ayurveda the doctrine of the three doṣas constitutes the cornerstone of Indian medicine, It explains normal human
constitution (both physical and mental), positive health, abnormal conditions, methods of diagnosis, hygiene measure and therapeutic. It runs through the entire gamut of medicine as the lest motif.

Another important principles of Āyurveda is the seven dhātus (the basic tissues of the body) or the tridoṣas as well as to the seven basic tissues or sapta dhātus that support the body in their states of normalcy. The seven basic tissues reformed to here are: Rasa, Rakta, Māṃsa, Majja, Asthi, Meda, and Śukra.

The term Rasa in the context of digestion means, the chyme or chyle i.e., the end product of gastro-intestinal digestion representing the nutritive elements which not only furnish materials for the body to work but also the energy required for the body to work. Rakta corresponds to the muscle tissue, Medas corresponds to the adipose tissue. Asthi is to the bone or tissue.
Majja corresponds to the bone-marrow (red). Sukra represents the reproductive elements of the male.

In abnormal stages of these basic structural elements of these basic *doṣas* or functions, the *sapta-dhātus* are spoken of as *dūṣyas*, much in the same way as the *tridhātus* are known as *tridoṣas* in similar disturbed state.

रससूड्यांसमेदोस्थयमज्ञानंशक्रणं धातवः।

सप्त दृष्टा: ...........

*Malās* or Waste Products

The term means waste products and excrements. The main excrements (gross) of the living body are: *mūtra* or urine, *śakṛt* or fasses and *swedādayu* or sweat etc.

मल मूत्रशुक्लवेददयोधि च।

The *tridoṣas*, *saptadhātus* and *malās* quantitatively mark an increase by the use of substances possessing homologous properties and actions. On the other hand, the use of antagonistic
substances. i.e., substances possessing properties and actions opposite of the *doṣas* and *dhātus* generally influence their decrease.

“वृद्धिः समानः सवर्णं विपरीतेविपर्ययः ।”

**Ṣaḍrasās or six tastes**

Tastes of substances, according to *Āyurveda*, are six in number, they are: *Śvādu* (madhura) or sweet, *Aṃla* or sour (i.e., acid), *Lavaṇa* or saltish (i.e., saline), *Tikta* or bitter, *Uṣṇa* (Kaṭu) or punget i.e., acrid, *Kaṣāya* or astringent.

“रसा स्वादम्मलवणतिकोणकषायकः ।

षष्ठं द्रव्यमानिनितं च यथापूवं बलावतः ॥”

i.e., *uṣṇa* is stronger than *kaṣāya*. *Tikta* is stronger than *uṣṇa*. *Lavaṇa* is stronger than *tikta*. *Aṃla* is stronger than *lavaṇa*. *Śvādu* is stronger than *aṃla*. 
Of these six rasās, the first three viz., swādu, aṁla, and lavaṇa are anti-vātic, the last three viz., tikta, uśṇa, and kaṣāya are anti-kapha, and kaṣāya, tikta and madhu are anti-pitta.

Three varieties of Dravyas or substances

Substances are classified into three categories from the point of view their therapeutics.

I. Śamana or palliative. Substances belong in to this group alleviate the disturbed doṣas and restore them to their normalcy.

II. Kopana or provocation : Substances belonging to this group provokes the doṣas.

III. Swasthabita : Substances belonging to this group are beneficial for the maintenance of health.

“शमनं कोपनं प्रव्यमिति विधा ।”
**Vīrya**

According to *Āyurveda* there are two *Vīryas*, namely *uṣṇa* or hot and *sitā* or cold.

“उष्णशीतलगोल्क्षोत्तर वीर्यं द्विवस्मृतम् ।”

The term *vīrya* means ‘power’, ‘potency’ etc. But, in the context of science or *vijnāna*, Caraka’s definition of it will hold good. He defines *vīrya* as “the power which performs work or action.” “There is no action” says Caraka “which is not due to *vīrya*, all actions take place only because of *vīrya*”.

“… वीर्यं तु रूठोत्तरे ये या क्रिया ।
न वीर्यं कुरूले किंचित्त सकावीकृतं क्रिया ।” (C.S.Su., 26-64)

**Vipāka**

The term *pāka* generally means ‘to prepare’ ‘to render gift’, ‘to cook’, ‘to digest’ etc. The term ‘*vipāka*’, means *Viśeṣa* or *Viśiṣṭa-pāka*. According to the Nyāya-Vaiśeṣika system, the
term pāka signifies chemical reaction of different kinds. In the context of Āyurveda or biological science, this term comprehends various chemical reactions to which food and medicinal substances are subjected in the āmāśaya-pakvāśaya, during the process of digestion and absorption, and in the tissues (dhātus) all over the body in the course of metabolism in which various kinds of powerful chemical substances such as enzymes, hormones, oxygen etc., take part.

The above mentioned theories of Nyāya-Vaiśeṣika and Āyurveda are logically proved one. Because these science, which try to explained all the theories are phenomenon of universe, which is natural one, not artificial. So its scientific tradition is from the times of immemorial, and it is everlasting.
NOTES

1. तद्विभ्रं जानामुनवकः। स द्विविधम्। यथावत्| यथावतं चेति। T.S.
2. यथावत्संस्कृतत्वंतुविधं| प्रयत्नम्| सुमिलयूपितितम्| शाब्दमेवदात्। Ibid.
3. अयथावत्संभवितः| संसारविपर्ययात्केकमेवदात्। Ibid.
4. इद्विविधसत्रिकोशाधनं| जानं| ...............| प्रत्यक्षं। N.S., I.1.4
5. जानकरणकं| जानम्| प्रत्यक्षम्। N.S.M.
6. इद्विविधसत्रिकोशाधनं| जानं| प्रत्यक्षं (जानकरणकं| जानम्| प्रत्यक्षम्)। द्विविधम्| निविधक्लयम्| साहिक्लयकम्| चेति। T.S.
7. एवं| प्रत्यक्षं| लोकीकालोकीकामेव| द्विविधं। N.S.M.
8. अलोककेकसु| व्यापारितिविधं| परीक्षितं:| सामान्यक्लस्यो| जानतक्लस्यो| योगजस्तथा। N.S.M.
9. योगजो| द्विविधं| प्रथो| युक्तु| जाननेत्रेऽत्स:| युक्तस्य| भवेदा| भानं|, विनुआहकृतो|परः। T.S.
10. अनुमानं| द्विविधं| स्वाभयं| परांत्यं। T.S.
11. N.S., I.1.5
12. तत्र| स्वाभयं| स्वानुमित्तहेतुः। तथा| हि| स्वाभयं| भूयोदशंभेन| यथा| यथा| भूमस्तत्त| तत्रामिगतिः। ...। तद्तत्। भूयोदशंभानम्। T.S.
13. व्यालिपिस्ताक्षंक्षप्रमाणानं| परामयं। T.S.
14. यथूः| स्वाभयं| भूमालिपिप्रमाणः| परं| प्रतिपत्तयं| पञ्चायववचवं| प्रयुः। तत्परांत्यंभानम्। T.S
15. साध्यनिदेशः| प्रतिज्ञा| N.S., I.1.33
16. साध्यतया| पञ्चायवचनं| प्रतिज्ञा। T.S.D.
17. उदाहरणसाध्योऽः| साध्यसाध्यं| हेतुः। N.S., I.1.34
18. पञ्चभयं| लिङ्गप्रतिपादकं| हेतुः। T.S.D.
19. साध्यसाध्यं| तर्कमानो| दृष्टान्तं| उदाहरणं। N.S., I.1.36.
20. व्यालिपिप्रतिपादकं| उदाहरणं। T.S.D
21. उदाहरणप्रपेक्षस्यत्वंसंहतो| न| तथैवं| वा| साध्यस्पर्श:। N.S., I.1.38
22. व्यालिपि| विशिष्टलिङ्गप्रतिपादकं| वचनं| उपन्यासः। T.S.D.
This phenomenon is modern physics is called as endothermic (denoting a chemical reaction that takes heat from its surroundings) and exothermic denoting a chemical reaction that gives out energy.

See Pañcamahābhūta Theory

C.S.Su., VIII.9,10.

Ref. A.H.Su., I.

Ref. C.S.Su., XII, 4.

H.I.P., Das Gupta, Vol.II. p.337-38

Ibid., p.336-337.

Ibid., p.332-333

Ibid., p.330-331