

CRITICAL ANALYSIS OF PANCHABHAUTIK ORGANIZATION AT CELLULAR LEVEL

Kamath Nagaraj¹ Kulkarni Pratibha²

¹P.G.Scholar, ²Associate.Professor & Head, Department of Shareera Kriya, Sri Dharmasthala Manjunatheshwara College of Ayurveda & Hospital, Hassan-573201, Karnataka, India

ABSTRACT

The individual is an epitome of the universe. All the material & spiritual phenomenon of the universe are present in the individual. Similarly all those present in the individual are also contained in the universe. The body is described as the modified form of *Mahabhutas* hence the description of the identity of the individual & the universe relates to *Mahabhutic* composition only. The multitudes of the human features are ascribed to the proportion of different *Bhutas* each of different nature.

The major function of *Prithvi Mahabhuta* is it improves the size by solidifying the body parts, *Jala Mahabhuta* confluences the body tissues, *Agni Mahabhuta* is responsible for metabolic activities, *Vayu Mahabhuta* divides and differentiates the cell and tissues, *Akasha Mahabhuta* increases the quantity by forming cavities.

The solidified and tough structures present in a cell like the plasma membrane, nucleus and other organelles are the attributes of *Prithvi Mahabhuta* at the cellular level. The liquid portion present inside the cell i.e. intracellular fluid and also the fluid present outside the cell i.e. extracellular fluid can be considered as the *Jala Mahabhuta* at the cellular level. The *Agni Mahabhuta* at the cellular level can be considered as the various metabolic activities in the mitochondria which is considered as the power house of the cell. The process of cell division taking place in cells can be considered as the function because of *Vayu Mahabhuta* since the function of *Vayu Mahabhuta* is differentiation. The space present inside the cell to accommodate the various organelles and various channels present in the plasma membrane so as for the exchange of the various materials like nutrients, ions and metabolic wastes in and out of the cell. The movement of these entities in and out is due to the influence of *Vayu Mahabhuta* since the movement is the function of *Vayu Mahabhuta*.

Keywords: *Panchamahabhuta*, Cell, Organization

INTRODUCTION

The individual is an epitome of the universe. All the material & spiritual phenomenon of the universe are present in the individual.

Similarly all those present in the individual are also contained in the universe.^[1]

Originating in cosmic consciousness, this wisdom was intuitively received in the hearts of the ancient scholars. They perceived that consciousness was energy mani-

fested into the five basic principles or elements. Man is microcosm of the nature and so the five basic elements present in all matter also exists within each individual. Thus out of the womb of the five elements, all matter is born. The five basic elements exist in all matter. Water provides the classic example: - the solids of iced water are manifestation of the *Prithvi Mahabhuta* (earth principle). Latent heat in the ice (*Agni*) liquefies it, manifesting into *Jala Mahabhuta* (water principle). And then eventually it turns into steam expressing the *Vayu Mahabhuta* (air principle) the steam disappears into *Akasha* or space.^[2] *Bhuta* is that which is not born out of something, but out of which something is born. It is the material cause of substances in the world. When we say *Bhuta* we mean that subtle level of existence, where as *Mahabhuta* refers to gross level of existence.^[3] *Panchikarana* is the process through which invisible *Bhutas* combine with each other and form the visible *Mahabhutas* in such a way that all *Bhutas* are present together in each *Drisya Bhuta* in varying degrees of predominance. Thus in the physical world everything is a combination of *Pancha Mahabhutas* & we cannot see them independently.^[4]

Thus the five basic elements *Akasha Vayu, Teja, Jala And Prithvi* are present in one substance. This proves that all five elements are present in all matter in the universe.^[5] Visualization of the identity of the individual with the universe paves the way for salvation. The body is described as the modified form of *Mahabhutas* hence the description of the identity of the individual & the universe relates to *Mahabhutic* composition only. The multitudes of the human

features are ascribed to the proportion of different *Bhutas* each of different nature.

The structural and functional unit of the body is called as cell. About 200 different types of specialized cells carry out a multitude of functions that help each system contribute to the homeostasis of the entire body. At the same time, all cells share key structures and functions that support their intense activity.^[6]

Principal constituents of the cell are: Cell membrane, Nucleus, Cytoplasm with its organelles. Cell membrane functions are - Protection, Digestion, Selective permeability, Framework for protein arrangement, Linkage to adjacent cell by Junctional complexes. Nucleus functions are Genetic Makeup, Carries heredity characters, Cellular reproduction and multiplication. Cytoplasm with its organelles functions - Endoplasmic reticulum – Smooth (steroid synthesis, detoxification), Rough (Protein synthesis). Mitochondria – Power & Protein generating. Lysosomes (suicide bags) – Lytic (digestive) function, engulf worn out components, exogenous substances, lysosomal enzyme called autolysis. Peroxisomes – destroy toxic substances. Centrioles/ centrosomes – concerned with movement of chromosomes during cell division. Microtubules/microfilaments – movement of chromosomes, cell movement, movement of protein within cell membrane.^[7]

AIMS & OBJECTIVES

To critically analyse the *Panchabhauthik* organization of the cell.

MATERIALS & METHODS

The *Bruhat Trayi* were scrutinised regarding the references for the *Guna* and *Karma* of the *Panchamahabhuta*. Later, physiologico-anatomical aspects of the cell were studied

from modern physiology books. Later, supportive correlation was done between *Ayurvedic* and modern views to build valid and reliable hypothesis regarding the *Panchabhautika* relation to the various anatomical and physiological aspects of the cell.

DISCUSSION

The individual *Mahabhutas* will be having *Bhavas*. The *Bhavas* of *Akasha Mahabhuta* is audition, auditory apparatus, lightness, minuteness, separation, face, neck and lips. The *Bhavas* of *Vayu Mahabhuta* are touch, touch senses, dryness, inspiration, tissue configuration, vitality, apana region, motor function of body. *Tejah Mahabhuta Bhavas* are vision, visual apparatus, splendor, pitta, digestive power and heat and growth of body. The *Bhavas* of *Jala Mahabhuta* are taste, taste organ, coldness, softness, confluence, viscous, humidity, kapha, meda, rakta, mamsa, shukra. The *Bhavas* of *Pritvi Mahabhuta* are smell, olfactory organ, heaviness, stability and statuette.^[8]

The major function of *Prithvi Mahabhuta* is it improves the size by solidifying the body parts, *Jala Mahabhuta* confluences the body tissues, *Agni Mahabhuta* is responsible for metabolic activities, *Vayu Mahabhuta* divides and differentiates the cell and tissues, *Akasha Mahabhuta* increases the quantity by forming cavities. These result in complexity, delightedness or richness, energy, movement, cavitations/perforations in the body.^[9]

The solidified and tough structures present in a cell like the plasma membrane, nucleus and other organelles are the attributes of *Prithvi Mahabhuta* at the cellular level. The liquid portion present inside the cell i.e. intracellular fluid and also the fluid present outside the cell i.e. extracellular fluid can be considered as the *Jala Mahabhuta* at the

cellular level. The *Agni Mahabhuta* at the cellular level can be considered as the various metabolic activities in the mitochondria which is considered as the power house of the cell. The process of cell division taking place in cells can be considered as the function because of *Vayu Mahabhuta* since the function of *Vayu Mahabhuta* is differentiation. The space present inside the cell to accommodate the various organelles and various channels present in the plasma membrane so as for the exchange of the various materials like nutrients, ions and metabolic wastes in and out of the cell. The movement of these entities in and out is due to the influence of *Vayu Mahabhuta* since the movement is the function of *Vayu Mahabhuta*.

CONCLUSION

Man is microcosm of the nature and so the five basic elements present in all matter also exists within each individual. Thus out of the womb of the five elements, all matter is born. The five basic elements exist in all matter. Water provides the classic example: - the solids of iced water are manifestation of the *Prithvi Mahabhuta* (earth principle). Latent heat in the ice (*Agni*) liquefies it, manifesting into *Jala Mahabhuta* (water principle). And then eventually it turns into steam expressing the *Vayu Mahabhuta* (air principle) the steam disappears into *Akasha* or space.

The structural and functional unit of the body is called as cell. About 200 different types of specialized cells carry out a multitude of functions that help each system contribute to the homeostasis of the entire body. At the same time, all cells share key structures and functions that support their intense

activity. Principal constituents of the cell are: Cell membrane, Nucleus, Cytoplasm with its organelles.

The Panchabhautik organization at cellular level can be considered in following way – *Prithvi Mahabhuta* comprises the solid and tough structures of the cell namely Plasma membrane, organelles, nucleus; which gives shape and structure to the cell. *Jala Mahabhuta* comprises the intra cellular and extra cellular fluid which is responsible for the nourishment of the cell. The various metabolic activities, release of energy inside the cell especially in the mitochondria can be considered as the *Agni Mahabhuta*. The movement of ions, nutrients and metabolic waste products in and out of the cell can be considered as the function of *Vayu Mahabhuta* at the cellular level. The cavities or space present inside the cell to accommodate various organelles and the various channels present in the plasma membrane for the movement of ions, nutrients etc can also be considered as the *Akasha Mahabhuta* at the cellular level.

Similarly the *Panchabhautik* organization should be understood at the various levels of organization in the body.

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CORRESPONDING AUTHOR

Dr Nagaraj Kamath

Department of Shareera Kriya, Sri Dharmasthala Manjunatheshwara College of Ayurveda & Hospital, Hassan-573201, Karnataka, India

Email: nagaraj.kamath1989@gmail.com