

Preface

I am a gynecologist by profession. For the last ten years, I have been working in rural India as a practicing obstetrician along with my wife Dr. Jyoti, who is an anesthetist. During these years, I have seen the ethical and unethical sides in my profession.

I have always wondered about those inner urges that categorize an act as unethical and compel me not to do it. At the same time the same urges categorize some other act as ethical and compel me to do it at the cost of mental trauma and monetary loss.

What are these urges, and why do they persist in human life? This question has influenced my life, my thought process and my writing as well.

Are these urges basically biological? Are they a product of social conditioning, or do they just get weakened or reinforced by it? Is there any source or power, which has gifted these urges to mankind? Why should one act according to these urges? In real life, one sees a person accumulating wealth, power and reputation by acting against these urges, while a person who abides by these urges suffers and toils. Then I wonder about justice! Is there an ultimate operative justice, and what are its criteria?

All these questions have tormented me and at the same time have given direction to my thinking process and ultimately to my life.

In 1994, I wrote a novel on cave dwellers that lived 50,000 years ago. I envisaged these people whose life was at the level of animals that surrounded them. It was perhaps this inner

ethical urge in the mind of Fengado their leader, which separated him from other animals. He, perhaps, was the first human who walked on this Earth. While writing this novel, it was inevitable for me to address the questions mentioned above.

During this period, I was in regular correspondence with one of my friends, Dr. George Mathai. George is a person who has accepted the person of Jesus Christ as a Savior, at the same time rejecting the conventional Christianity in the form of Pope, Church hierarchy and wooden cross. In one of his letters, he underscored a very important aspect about these questions. To quote him,

Anywhere in the world, irrespective of the culture, language, country, region, religion, state of development, or time, every person wears the glasses of a particular world-outlook. The person might be totally unaware of this fact. Or even he or she might not have some aspect of the worldview quite developed, or is not that aware of the glasses of world-outlook of those people who are equally developed in all the parameters. But the fact remains that some kind of such glasses are worn by each and every individual. These glasses of world-outlook provide a set of answers, no matter how simple, to each person for the following questions:

Who am I? What is the source of my life? What is my importance in this universe?

Why respect for human life is considered as an ultimate principle? On what basis?

Why in human life there is always a hope for a better tomorrow?

How do I use the freedom to act ethically? On what criteria?

What is the ultimate meaning of my life? What is its purpose?

What is the destiny of human society?

After raising these questions, Dr. George Mathai emphasized that the philosophy that provides consistent, logical and congruent answers to these questions is the valid philosophy. Keeping aside the philosophical jargon, one can experience the drama evolving out of various sets of answers to these questions obtained through different religious faiths. The drama that has often made human beings violent and provoked bloodshed amongst brothers.

As an author and avid reader, I was also becoming aware of the fact that classic literature, all over the world has something in common. This literature invariably deals with these basic urges and the questions raised through the glasses of world outlook. Such literature finds its way to the hearts of the readers across the world, overcoming the boundaries of time and space.

In the meanwhile, I read two books penned by Dr. Paul Brand and Mr. Phillips Yancy - viz., *Fearfully & Wonderfully Made* and *In His Image*. Dr. Paul Brand is a well known Surgeon and missionary who has spent his life amongst leprosy patients at Vellore in South India. In these books, he has illuminated Christian theology.

While describing the relationship between a human being and the society in which he lives, Dr. Brand uses the analogy of a single cell and human body. I am tremendously impressed by the beautiful integration of theology and anatomy carried out in one of these books.

An idea sparkles in my mind. Is it possible to integrate a single cell with the concept of creation and appreciation of a work of art?

I also had a notion that the glasses of world outlook that a person wears are a reality, and they are somehow related with creative and appreciative processes.

As a student of medical faculty, I was well conversant with the function of brain and nervous system.

These three thought processes got interwoven in my mind and created the fabric of hypothesis - bhava-peshi - bhava meaning a composite of reason and emotion and peshi meaning a single cell.

The concept as it grew - expanded in various dimensions, and yet it still kept its internal consistency. I, myself, was spellbound and enthralled by it.

This is all I can say about the process of creation of this hypothesis.

I believe that in the field of aesthetics, never before a model has been employed to understand the process of creation and appreciation of the work of art.

I sincerely hope that this book will be of some help to readers, critics and philosophers.

In the end, I must pay my tributes to late Mrs. Dr Sulochana Deshmukh, Mr. Ravi Godbole of Deshmukh and Company (Publishers) PVT. LTD, Pune, India, and my friend, Professor Mr. Vijay Kachare without whose help and encouragement the hypothesis of bhava-cell would never have taken birth.

I also thank profusely Mr. Stephen Garvey of Inexpressible Publications, for his most invaluable help in making bhava-cell crystal clear and sharp in focus.

With his able guidance, I get a rare chance to re-examine my hypothesis with a keen philosophical perspective before it being published in English.

No need to say that due to his efforts the English version has become a superior version to original Marathi version and the Marathi version will be changed accordingly in its next edition.

Dr. Arun Gadre
June, 2004
Pune, India

PART- 1 THE BHAVA-CELL MODEL

It would be unanimously accepted that every genuine work of art aims at probing the true meaning of human existence.

But how would one define human life?

In our ordinary, inconsequential life, we strive to search for the meaning and purpose of human existence. What exactly does human life consist of?

Human life is as mysterious today, as it was in the times of yore.

Science has miraculously changed and prospered our life. Previously human life started with the birth of a child. Now it starts earlier. Due to the advancement in medical science, the fetus, after spending five months in the mother's womb, can develop outside.

Technically human life is a result of the union of the sperm and the ovum. After mating of the sperm and the ovum, a new existence begins its own life.

In this infinite universe, only when two particular cells meet and come together, the united cell goes on transforming into an assemblage of millions of cells according to the program given by its DNA (deoxy-ribonucleic acid).

This astonishingly cellular development that takes place in the mother's womb for nine months, is simply unparalleled.

Even today, these two cells come from a man and a woman existent in our time, but even after all the generations from the first human being, the orderly consistency of human reproduction has been the same.

"Where does this elementary cell come from? Who or what brought it in to existence?"-- These questions are still as unanswered today as they were at the time of an ape-man.

In the lower single cell organisms like ameba the single cell divides at a particular point in its life cycle to produce another single cell ameba and both live separately to produce further progeny. In higher organisms like human beings, two cells from different sex meet to produce a single cell that multiplies and develops in to a new human being.

Though, in modern times, with the help of science and technology, doctors make the two cells meet in a test tube, there is still no substitute for a womb, and even if we find a substitute, a creation of a primary human cell (The one that meets another to produce the embryo) is still an impossible dream for us.

Bioengineering and genetics are fast developing branches in science. And it is possible to create one complete man from a single cell by cloning method. But the pre-condition of having one single cell is still there. Even in the well-equipped, modern laboratories, using all the available knowledge, chemicals, and tools, it is not possible today to create a single living cell except using other cells to begin with. The origin of the living cell is an ever-perplexing riddle for science.

The universe which is there from time immemorial, and which is infinite—the one which is vast to the extent of millions of

light years—and there lies in this very universe, this microscopic, inconceivable, uncreatable primary cell.

Ameba is a unicellular organism, while the human beings are made up of billions of cells. But both the human being and the ameba resemble each other. They both have hunger, sensitivity to touch, movement, sight, and reproduction of their own kind.

From ameba to human beings, there are millions of living organisms in between them. But all these living things start their lives from--one single cell. (Human beings as mentioned from a cell derived from the union of a sperm and ovum) What does this cell consist of? See Figure 1.

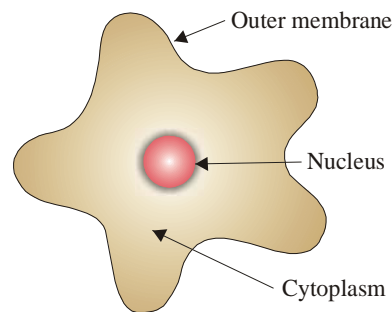


Figure 1: Cell of human being

1. the nucleus—the center or brain of the cell.
2. Cytoplasm—the jelly-like liquid which is around the nucleus.
3. plasma membrane—the wall or the covering of the cell which defines the separate existence of the cell from the outer world.

Some peculiarities of this cell are—

1. the nature of this cell, is common in all living beings.
2. In the cytoplasm, there is a digestive system, an excretory system and a system that generates energy. In short, the cell is a living one.
3. The nucleus of the cell is made of proteins called DNA. The peculiar assemblage of these proteins creates a program code. According to this code, the properties of the cell are determined.

The human cell shows the same peculiarities.

Each human cell comes with a DNA file in which the elementary properties lay hidden. Fairness, color of skin, height, intelligence--- all these properties are enclosed in this file which is a combination of different qualities of a man and woman. All the same, every human cell has the basic ability to transform itself into another kind of cell. For instance, why does the skin cell pertain to the skin and not the heart? The answer is that when a particular code pertaining to the skin is triggered, the elementary cell is transformed into skin cells. Had it been a code for heart cell, the elementary cell would have been transformed into a heart cell, and so on.

But how the proper codes are triggered while the fetus is growing is still the riddle for science. The microscopic program of the DNA structure of the primary cell of conception has the ability to produce thousands of types of cells from a single cell, which gets converted, into billions of cells as per the pre-conceived design. Because of this ability, from a single cell, an orderly baby of a human being is produced, which ultimately grows into a full-grown human being.

And to think that all this is happening on this very earth, this tiny spec of dust in the vast universe, and likely nowhere else.

But a very tiny living human being from a single cell does not only enter into this large backdrop of the universe, but also it comes with its own existence-throb. The feeling that I am alive is always awake in this tiny living being. The body moves as per his/her wish. His/her heart throbs approximately 70 to 80 times every minute. S/he inhales. S/he exhales. Due to his/her emotional and intellectual developments, his/her sense of being alive gets increasingly sharper. At the same time, s/he gets numb by unknown anxiety. His/her spirit gets suppressed by the pleasures and the sorrows of his/her life, the deadly struggle in his/her life, and by the vast infinite dimensions of the world around. S/he becomes introspective. To come to this Earth is not by his/her choice. His/her death is also not as per his/her choice.

But in between these two points of birth and death, his/her body lives accurately. The existence-throb that I am alive underlines his/her life. Sometimes it hurts him/her, sometimes it pleases him/her.

This process does not stop here. The person becomes fertile. The inevitable mating of the woman and the man happens. The whole essence of his/her existence gets pinpointed into a single cell. The two cells of a woman and a man unite to give rise to a new life. This new life continues the chain of his and her life.

Billions of cells from a single cell. The essence of billions of these cells concentrating again into a single cell. This single cell (two cells united into a single cell) partly gives rise to billions of cells again, thus continues the chain of life, endlessly.

Inevitable effect of this chain is the contact of this living human being with nature, and other human beings, and other life

forms. Also along with this contact comes the inevitable urge to live including the struggle that comes with it. In this way, these innumerable existence-throbs interact, embracing, clashing, and colliding with each other.

The source and the originator of this existence-throb viz., the thoughts and emotions of this living human being is the human brain.

The brain of human beings is far away from the external world, detached, and isolated in the skull. The brain itself does not see; eyes see for it. The brain itself does not hear; ears hear for it. The brain does not touch; the hands and feet touch for it.

The sensations carried by these sensory organs are taken to the brain in the form of Electro-chemical waves. The brain receives millions of bits of information per minute, and the brain consists of billions of cells. These billions of cells communicate with each other. The reason behind this communication is the awareness of self-existence, which is also a product of this communication. Due to this cellular communication, flickers are created in the cellular atmosphere of brain like the waves in the sea. As a proof of it, even during sleep one can measure these flickers by a medical instrument.

This communication among the innumerable cells in a particular part of the human brain gives rise to orders. The orders are transformed into Electro-chemical waves. Thus, the brain sends out the messages. As a result, there is a variation in the heartbeats; there is the awareness of hunger; there is a song being sung; there is picture being drawn.

Thus, because of the central ordering by the human brain, the human body is the slave of the brain. The death of the brain means the death of an individual.

Many scientists have devoted their lives in the research about the human brain. And hence we now have some knowledge about the vast expanse of the brain.

The brain is divided in many different parts as shown in Figure 2.

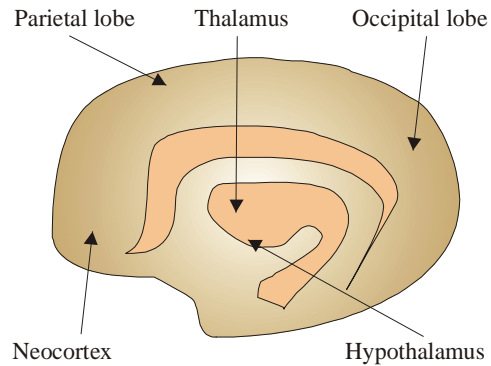


Figure 2: Different parts of human brain

The part that lies between the body and the human brain is called the mid-brain. The messages that are sent from the various parts of the body are blocked in this part. A few of these messages, which need attention, are sent up to the main brain. Near the midbrain and below the thalamus are the hypothalamus, amygdala and hippocampus. They constitute the limbic system, which controls the emotions. Just above the hypothalamus is the parietal lobe. The parietal lobe along with the frontal lobe is responsible for taking the cognitive experience. The left neo-cortex is the one that keeps the emotional surge from amygdala in balance and in check. The

parietal lobe with the help of the neo-cortex takes cognitive experience, draws out the analytic judgment, and awakens the self-existence. It makes the person awake, it makes him talk, it makes him dance, and it makes him- exert himself.

Thus the basic cell, through the brain, starts dominating the body of this living human being.

When the brain decides, the individual reads or writes, or sings or listens to a song or dances or enjoys a dance ad infinitum.

When the frontal or the parietal lobes are dead, and/or become inactive, the body of the individual lives on. In this condition, the body can be nourished by providing food through a tube. The individual's heart throbs. He respire. But his/her existence-throb is no more.

Thus the process of creating a literary work and the process of appreciating that literary work need the participation of the human brain. And that is why, while discussing these processes, it is absolutely necessary to know the functioning of the brain. In the next chapter, I will deal with this point more elaborately.

In summary, the human body is an intricate and efficient structure of billions of cells. The human brain controls this miraculous structure, and the microscopic primary cell is the seed of this intricate structure including the brain.

This microscopic cell is the primordial source of human life. It has its own peculiar existence. This cell through the DNA in the nucleus, gives commands, breathes through its cytoplasm, digests and excretes. And above all, with its outer cell membrane, the cell asserts its separate existence from the outer-world.

Thus, I have formulated the hypothesis of the bhava-cell in theory. Let me now examine the unique qualities of the bhava-cell.

- A— for every human being bhava-cell is a real and a living thing,
- B— though every human being possesses a different bhava-cell, the bhava-cell of human species possesses similar qualities. (Every ameba is different but its qualities as a species are the same)
- C— like all other cells, bhava-cell possesses nucleus, cytoplasm and outer membrane.
- D— like all other cells, the energy level in the bhava-cell changes.
- E— Bhava-cell is affected by the inputs it receives. As a result of it, waves get erupted in its cytoplasm. The bhava-cell also gives output in its own unique way.

The normal cell has a material form. Bhava-cell does not have material form. Millions of cells, in the human brain, together give the material base to the bhava-cell. In the same way, the nucleus, the cytoplasm and the outer membrane, of this cell are not made of matter but instead they are made as follows.

- A— The nucleus of the cell is the -Three polar composite. The three poles of the nucleus are — 1 -- the question who am

I? This question is the resultant pole of the two other poles of the nucleus. They are -- 2 -- I that is finite and 3 -- I that is bodily entity.

We will be discussing about this concept of the nucleus in details in chapter -- 6.

But it will be sufficient to note here that as in the biological cell, in the bhava-cell (our hypothesis) too, the nucleus governs the bhava-cell.

The nucleus controls the cell as the brain controls the body. In the nucleus of the bhava-cell lies the source of existence-throb and the yearning for communication.

In short, we can define that,

The bhava-cell has at its center or nucleus the Three polar composite consisting of three poles -- namely -- 1 -- the question Who am I? 2 -- I that is finite, 3 -- I that is bodily entity.

B— the outer membrane of bhava-cell is made of the composite - What is this outer world? -It is a vast, well-coordinated interdependent system that is bound by definite rules and is a complete and perpetual thing in itself.

In a way, this question is an inevitable outcome of the “I” at the center of the bhava-cell. The very assertion of I as a separate, autonomous entity pre-supposes the existence of actual real outer-world that is separate from the I.

Expectation that—this outer world is a vast, well-coordinated interdependent system that is bound by definite rules and is a complete and perpetual thing in itself, is a basic sensitivity

level. It is not an outcome of any external input. Due to this expectation as a basic sensitivity level, the search for the rules that control and coordinate this vast interdependent system begins. This is the origin of science.

In short, we can define that,

The bhava-cell has at its outer membrane is the composite--
What is this outer world? -It is a vast, well-coordinated interdependent system that is bound by definite rules and is a complete and perpetual thing in itself

C— the cytoplasm of the bhava-cell is composed of basic sensitivity levels. There are four basic sensitivity levels in the cytoplasm of the bhava-cell.

- A—respect for human life.
- B—awareness of freedom of will to act.
- C—hope and expectation for a better tomorrow.
- D—love and compassion.

In the hypothesis of the bhava-cell, another assumption would be the basic sensitivity levels. We shall seek some information about these basic sensitivity levels.

We have assumed that,

1— the basic sensitivity levels are there on their own. They take birth along with the brain.

2— They are primary independent things. They are not an outcome of any conditioning or input from the external world. Actually, they are acted upon by the coming input to give rise to the phenomenon of conditioning. One cannot condition a vacuum. There

has to have something to—condition. This something is these basic sensitivity levels. Input may reduce the energy in these basic sensitivity levels. Input may increase the energy in these basic sensitivity levels.

3— the energy in the sensitivity levels is in the form of bhava/ bhava-wave/bhava-energy.

Thus is our bhava-cell. This bhava-cell maintains its separate existence because of its awareness of its outer membrane as well as the two poles of the nucleus that is -- I that is finite and I that is bodily entity. The inputs, which it receives from the outer-world, are absorbed in the cytoplasm of the bhava-cell which consist of four basic sensitivity levels as well as in the nucleus and the outer membrane. There are changes in the energy level of the basic sensitivity levels due to absorption of bhava-energy. The nucleus of the bhava-cell, the composite Who am I?—I that is finite, autonomous, bodily entity with the capacity to influence the outer world, is also one of the main important sources of energy for these basic sensitivity levels. There are changes in the energy level of the basic sensitivity levels, based on the conclusions drawn from the analytic judgment derived out of resonance of the basic sensitivity levels. Due to yearning for communication present at its center, the bhava-cell creates outputs. Inputs as well as the process of creation of output cause the changes in energy levels.

This is the hypothetical bhava-cell and its composition. The bhava-life of the brain is its basis. Hence, inevitably there is a resemblance between the properties of the bhava-cell and the brain. Let us summarize these common properties.

D— Bhava-cell possesses an energy level, which is related to time.

The Bhava-cell

- E— the energy level has a rhythm, which is internal and autonomous as well as, guided by input.
- F— the bhava-cell contains in it the knowledge obtained from cognitive inputs.
- G— the energy level of the bhava-cell varies due to inputs.
- H— the energy level of the bhava-cell never reduces itself to zero. Zero energy level stands for the death of a bhava-cell. All the basic sensitivity levels as well as the nucleus and the outer membrane cannot be—zero at any point of time, individually or collectively, because zero level of any of its ingredients would certify the death of the bhava-cell.
- I— One of the poles of the nucleus is the awareness of I that is a bodily existence.

This body is a composite. A composite of brain as well as body. Naturally, the bhava-cell uses its brain, and the body to receive the input and to give an output.

So—

For its existence, the bhava-cell uses brain with all its abilities.

- A— the brain uses body to receive knowledge and sensory input from the outer-world.
- B— in the other words, the bhava-cell uses the body of a person as a medium to receive inputs.
- C— the nature of this bhava-cell is common for homo-sapiens.

1— The center/the nucleus—It consists of the composite of the three poles, —Who am I? -I that is finite, I that is bodily entity.

It contains a yearning for communication along with the realization of separate existence of I from the outer real world.

2— The cytoplasm—It is made up of the four basic sensitivity levels as explained earlier.

3— The outer membrane---It is the question, --What is this outer world? -It is a vast, well-coordinated interdependent system that is bound by definite rules and is a complete and perpetual thing in itself. It underscores the awareness of separate existence.

These things are common for all human beings. But the strength and the dominant pole of the nucleus, the energy level in the four basic sensitivity levels of the cytoplasm and the strength and dominant pole in the outer membrane of the bhava-cell vary from person to person.

And even in the same person, they vary from time to time.

The bhava-cell with its intense yearning for communication creates and appreciates the work of art.

Another fact must be mentioned over here. We have taken for granted that this bhava-cell is a function of the brain.

How do human brain and body develop? This development is pre-determined.

A normal child with the normal brain develops in a pre-determined way. This development does not depend on conditioning or external training.

After a certain time—his/her eyesight would be stable.

S/he would respond by uttering monosyllabic words.

S/he would be able to crawl.

S/he would be able to stand.

S/he would be able to walk etc. and so on.

All this is pre-determined.

The human brain also grows like human body for some more years. This growth does not depend upon inputs, education or conditioning.

It is a physical, inevitable, pre-determined and well-controlled event.

Similarly, the growth of the bhava-cell, being the function of the brain occurs from childhood to adulthood. It does not depend on any external reasons.

The development of the bhava-cell is as natural a phenomenon as teething.

Like the brain, the intensity and the nature of a developed bhava-cell depend on its basic ability and the inputs it receives. The fully developed bhava-cell that is the bhava-cell of a physically and mentally mature person would be called a mature bhava-cell hereafter.

This will be always referred to as the bhava-cell. This term will always denote the bhava-cell of a physically and mentally mature person. When we use the word a bhava-cell it will always denote the bhava-cell of a mature person and it will never denote the bhava-cell of a child, infant, lunatic, or a mentally retarded person.

One point must be emphasized though. Bhava-cell is a function of brain. Though we are using various actual functions of the brain as bhava-cell's properties. It must be taken into notice that bhava-cell is a hypothesis. Its location in brain is not yet proved. Neither it is an actual biological cell. The structure of the bhava-cell as a cell is a hypothesis used to get clear and vivid picture of the bhava-cell. Its origin is purely a hypothetical one. Reader must not assume that a cell like this exists somewhere.

It is a model. We can take an example of that famous model of benzene ring. It is a hexagon in structure. No body states that it is an actual hexagon. Kekule, the scientist who was doing research on the molecular structure of the benzene ring got the inspiration of this hexagonal structure in one of his dreams, when he saw a snake with its tail in its mouth. Taking clue, Kekule imagined a hexagonal structure for this molecule of the Carbon and with this assumed model, he could prove many observed facts and thus that very model with its structure of hexagon was accepted as a true model.

All models work similarly.

Bhava-cell with a structure of a biological cell is also an assumed model. If with its structure and with its properties we can explain away the concepts in philosophy, aesthetics and ethics, we will be able to assume that this model is a true one.

One more point is worth stating. The development of any model in Science also is never a complete one. The model being of human origin is restricted by finitude on part of human being. It is never ending process. Human brain though is an outstanding one is nevertheless of limited capacity. Ultimate truth is always a long awaited dream. But models come and do their duty to shift the boundary between known and unknown. This boundary is gradually being shifted with rapidly advancing knowledge. But no models are sacrosanct. The latest model is better than previous one only by few steps. Model of the bhava-cell being a model is not immune to change. With more work it will be changed and even may be discarded. But another model is necessary to achieve this. If model of bhava-cell is found deficient and a new variant is found to be competent, enough to do away that deficiency that particular model will be accepted. We shall see in the following chapters, how this bhava-cell performs the function of creation and appreciation of literary work.