

**EPISTEMOLOGY IN DR. A. P. J. ABDUL KALAM'S *WINGS OF FIRE***

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**Abstract**

*This paper examines some of the implications of epistemology that figure up in Dr. A. P. J. Abdul Kalam's autobiography, Wings of Fire. It narrates India's journey of self-reliance and self-sufficiency in matters of space exploration and missile development. Epistemology is one of the branches of philosophy. It is a systematic study of knowledge. The paper is a critical study of the theory of knowledge in terms of self-knowledge, world-knowledge and god-knowledge. His reflective and insightful comments on the people, events and happenings have been pretty knowledge enhancing. The account given below throws light on how this principle forms a central theme in this literary discourse.*

**Key words:** self reliance, epistemology, philosophy, knowledge etc.

**Introduction:**

A. P. J. Abdul Kalam was the 11<sup>th</sup> President of the Republic of India. He is, in the first place, a veteran defense scientist. He has been instrumental in rendering India self-sufficient and self-reliant in terms of defence technology. His autobiography *Wings of fire*, published in the 1999, also narrates the development of a boat owner's son in the south Indian village called Rameswaram in to a well-known defence scientist, and further the President of India. In this seminal book, the author essentially celebrates the power and force of knowledge. Externally it looks as if the author is simply narrating interesting episodes and events of his life in a simple manner, however, if we peep deeper we find the deep structure reveals that the author celebrates the triumph of knowledge. The book has a spiritual dimension as well. The central proposition in this document is the alchemic power of knowledge. The author deals with the concepts of self-knowledge, world-knowledge and God-knowledge.

**Relevance:**

21<sup>st</sup> century is essentially a knowledge century. Ultimately, the world acknowledged that knowledge is the highest and most precious thing that can transform the world. Knowledge of where we are in the vast panorama of the cosmos has become a central issue in the mainstream public discourse. India has a rich tradition of knowledge. After the 1990, a dramatic change has precipitated in the Indian way of life. Tremendous thrust has been placed on the force of knowledge. Dr. A. P. J. belongs to that generation of talented

intellectuals who dream of building a powerful India by 2020 by harnessing the strength of knowledge. *Wings of Fire* is essentially the “knowledge manifesto” in this sense. The exclusive emphasis on force of knowledge is not new to the Indian way of life, rather it is the continuation of the “Dnyan Yoga” meaning the “Path of Knowledge” followed by the saints and sages since ancient times. Epistemology has been a central quest of the Indian philosophy since the ancient times. It is on the strength of knowledge that the Indians scaled great heights. The ancient Indian civilizations flourished particularly on the strength of knowledge.

## What is epistemology?

Epistemology is “a branch of philosophy concerned with problems of the nature, limits and validity of knowledge and belief”. (Benton:650) Knowledge is defined as “the information, understanding and skills that you gain through education or experience” (Hornby: 854). Epistemology is the systematic analysis of the process of knowledge. It is basically a theory of knowledge. A study from epistemological point of view enriches the aesthetic appreciation of the present text.

## Importance of Innate Knowledge:

According to Dr. Kalam both formal and informal ways of obtaining knowledge are important. He says even people with little or no education often surprises us with their deep understanding. The book is full of references pertaining to the concept of knowledge. He sharply distinguishes between the knowledge of the externalities and the true knowledge that springs from within. He says his father had very little formal education yet he possessed “wisdom”. He admires this trait as “the unschooled wisdom”. (10) He describes the knowledge that he earned at Madras Institute of technology (MIT), as “the composite knowledge”. He attributes the extraordinary way of demonstration of Hindustan Aeronautics Limited (HAL) technicians to their “intuitive feel for the work”. (22) This admiration for the informal education and for wisdom continued even while working on crucial scientific projects. He described SLV-3 human resource as “self-trained engineers”, “untutored talent”, “tangible asset” etc. (77)

In his technological career whenever there was confusion, the words of Lakshmana Shastri gave him peace and comfort. In times of difficulty and frustration he remembered his father’s teaching. He thinks knowledge as a tangible asset and tool that makes a human being free in true sense. The words of Khalil Gibran appear “full of wisdom” (45). A sense cultural pride and strong patriotic fervor is born out of this aspiration of spiritual knowledge. He respects Tipu Sultan for he tried to develop indigenous rockets in the 18<sup>th</sup> century. The technology of making bows in India in the 11<sup>th</sup> century also evokes a sense of pride, inspiration and patriotism. “It became clear that ancient Sanskrit literature is a storehouse of scientific principles and methodology, even to the extent of there being texts about how to build a viman (areoplane) (Kalam: 87) He was surprised at “the versatility of composites, in the sense that they possess very desirable structural, thermal, electrical, chemical and mechanical properties”. (47)

## Self-knowledge in *Wings of Fire*:

Self-knowledge means an understanding of one's own capabilities, character, feelings, or motivations etc. This discourse is basically about the process of the protagonist’s gradual understanding of himself, his hidden potentials through a series of events and experiences with his family members, friends and great teachers. His childhood friend, Jallaluddin had

spiritual inclination and had unflinching faith the “formless Almighty”. (06) Another friend, Samsuddin, the newspaper distributor at Rameswaram, introduced him to the outside “brave, new world”. (07) and thus influenced him greatly. He says that both of them “drew the core creative power of (his) mind”. (33) At St. Joseph’s his English teacher Rev. Father TN Sequeria, a considerate person, had a lasting influence on him.

The present book enumerates as to how a boat-owner’s son scales great heights on the strength of knowledge and hard work. He admits that right from his childhood his most powerful urge had been ‘to be more than what (he) was at that moment’. (140) He remembers his father’s advice that “he who knows others is learned, but the wise is one who knows himself”. (17) He further elaborates this: “I desired to feel more, learn more, express more. I desired to grow, improve, purify, expand. I never used any outside influence to advance my career. All I had was the inner urge to seek more within myself”. (140) Self reliance which is the central idea in the autobiography is thus closely related to his philosophy. It manifests in terms of India’s self reliance in matters of space and defence technology. He calls upon the young people to utilize the inner resource like imagination. In his opinion when one looks at the task from the uniquely individual standpoint, he becomes a whole person. Pythagoras’ call “Above all things, reverence yourself”. (176) is pretty significant in this context.

One more feature of this space odyssey is that it is a perspective of a scientist. He identifies the role of great teachers that he met in his school days in conceptualizing the potentials inherent in his self. Iyadurai Solomon of Schwartz Highschool, for example, helped “...the enthusiastic fifteen-year-old remerged” by instilling in him a sense of “self-worth” and “self-esteem”. (12) He believed that we need to understand three mighty forces—desire, belief and expectation. His education at Schwartz High school made him “self-confident”. (13)

According to him most people possess a strong inner urge for growth and self-actualization. Lack of appropriate environment deprives them of this desired growth and expansion. Out of this conviction he begins to understand the self in others. The exclusive emphasis on team work throughout the book is attributed to this central conviction. In the larger context he lays stress on co-living and collective human endeavor. He believes that God made each one with a specific purpose; there is a way to transcend the human body and merge into the vast cosmos. Prayer is a sort of connecting link between the human self and the vast and endless world. A sense of transcendentalism pervades the book. When he says God works through man, he means it is the Almighty that pours all his strength for realizing the technological wonders for the nation. His gratitude to God flows out of this attitude.

Prayer gives stimulus to creative ideas. The consciousness that surrounds us is full of such ideas; we need to give them shape. Hidden in our mind are personalities, strength and ability which we need to expand with the help of prayer. He adds that “prayer helps to tap and develop these powers” (33) He holds that there is the kingdom of God within every human being. He always receives power that he needs from this kingdom. This is a sort of “internal power reaction”. (49) It fills us with insight and wisdom. This revelation comes in the form of our sudden and unexpected encounter with a book or a person or a word. Under the spell of this reaction unconsciously a decision is taken as something new breaks into our life. He puts it thus: “This could come from an encounter with another person, from a word, a question, a gesture or even a look. Many a time, it could come even through a book, a conversation, some phrase, even a line from a poem or the mere sight of a picture”. (49)

The SLV-3 Project team was highly performance oriented. Here the author considers performance superior to knowledge and skills. “All of us carry some sort of super intelligence within us. Let it be stimulated to enable us to examine our deepest thoughts, desires, and

beliefs.” (90) The author believes in psychological experiments. After the completion of the SLV-3 Project, some of his colleagues criticized him. A sort of envy aroused in some of his senior colleagues. At this hour of psychological crisis he tried to reason out the reality. In a scientific manner, he analyzed the situation. His first analysis was that the bitterness because it was real. Consequently there was no conflict. He identifies techniques for strengthening personal freedom in life. Up-to-date knowledge has a strong connection with freedom. An ideal leader is one who keeps abreast with the events that happen around him in the real time. Thus leading teams or anything means engaging oneself in a continuing education. Direction is important in this context. “Know where you are going. The great thing in the world is not knowing so much where we stand, as in what direction we are moving” (113)

### **World-knowledge in *Wings of Fire*:**

How an individual perceives the world is a fundamental conception in Epistemology. *Wings of Fire* dwells on this concept of world knowledge. Being a scientist, the author respects the reality of the physical world. He acknowledges that he is “an avid reader of books on cosmology and enjoy reading about celestial bodies”. (15) His genuine interest in Physics drove him to the field of space exploration. What figures up through these pages is the image of a veteran technocrat who gave yeoman’s service towards making the nation technologically self-reliant and self-sufficient. Attraction for the space is symbolic in this sense. It has a spiritual dimension too. Scientific inventions also help us understand the operation of the central power in this universe. In fact, on one occasion the writer wonders that all spirituality is the outcome of the wonder of matter that is fundamental to all creation. However, he concludes that the controlling force always transcends human perception. There is a spiritual domain beyond this material world. A penetrating vision developed out of his preoccupation with the equipment, instruments and machines that he designed for space exploration. He is astonished to experience the infinite existence, small atoms enlighten. He acknowledges had been fascinated by the mysteries of the sky and the flights of birds from early childhood. The vision of penetrating the inanimate things like rocks, metal, timber, clay with their intrinsic movement develops out of this conviction. While elaborating on the concept of “flow” he refers to the “internal logic” (91) which operates on the principle of spontaneity and unconscious response.

He calls the earth “the most powerful and energetic planet”. (16) He identifies the intrinsic movement in apparently inanimate things. Consequently, the whole physical world appears highly dynamic. The electrons’ quest for freedom and detestation of confinement is simply knowledge enhancing. This abstract unseen reality of the physical object has been the matter of ignorance to ordinary folk. Only a few could understand this dynamism of the physical world. Finally, he concludes that “everything stationary contains great movement within”. (16) Gradually, this understanding of the visible and the life-sustaining invisible deepened in him. “I am on the planet and thus part of the energy that moves it. The energy that is the very essence of the planet is in me” (Kalam: 72)

Dr. Kalam distinguishes between the entity of ignorance and its awareness on the part of an individual. He accepts that ignorance is natural. It has always been there, but what matters is how you perceive it. What was new to him was the sort of awareness which he describes as “awakening to its fathomless dimensions”. (79) Consequently, he asks us to reckon with both beneficial and malevolent forces. Correct choice plays an important role in such circumstances. In the midst criticism he strongly feels the long ignored need for renewal. This

revelation dispelled his earlier view that the function of science is to explain everything and all that is unexplained is the domain of people like his father and Pakshi Laxman Shastry. Even the experience of flying in the sky is pretty enlightening. While flying his usual preoccupation is to look below at the vanishing boundaries that we have made and he perceives every second the boundaries that thrive provincialism. This experience drives the seeming illusion of geographical and psychic separatism and detachment gives a sense of unity. So his technological feat is equally instrumental in giving a sense of human unity and feebleness of the manmade boundaries. While flying up he always contemplates thus: "I wonder where all those boundaries are which separate district from district, state from state and country from country. May be such a sense of distance and detachment is required in dealing with all the activities of our life". (144) Making true estimate of one's own ability is another important concept. While ascertaining the role of God in every human endeavor, he adds that a mission director needs more power than usual and so he looks forward to God. He pours on him "insight and wisdom" (49) when it is needed.

The complex and subtle experience of gaining knowledge has been explained by the author in a simple and lucid language. He stresses upon the relative nature of this process. How you perceive the world depends on your approach to it. "If you ask a particle a question, it will give you a particle answer". (112) We attribute many qualities to the things that we encounter in our day today life. We see colours, tastes and many other attributes of objects. He adds that these are not the inherent qualities of the objects. To reinforce this idea he quotes Ronald Fischer who once remarked that "the sweetness that we taste is in a piece of sugar is neither a property of the sugar nor a property of ourselves." (112) It means there is no sweetness sugar nor in our tongue. This sort of cognitive approach has got an epistemological dimension.

### **God-knowledge in *Wings of Fire*:**

Dr. Kalam's autobiography is replete with references to God. Though he is a renowned scientist and the architect of India's space technology, he demonstrates unflinching faith in God. There is a confluence of these three kinds of knowledge in Dr. Kalam's work. Rather, his firm belief in the fundamental unitary power stands in good stead with him while communicating this central conviction. Time and again he substantiates this strong belief in God. He deems "believing" (136) being one of the four basic factors of successful outcome of any task undertaken. According to him a person with belief "...tackles problems head on". (136) He lauds the secular spirit that characterizes the society at Rameshwaram. Approaching the book from this God angle enriches our understanding of the work immensely. His father believes that there is God who ordains, one who is responsible for birth and death. On the death of Dr. Kalam's brother in law, Jallaluddin his father remarked: "Jallaluddin has gone into a long sleep—a dreamless sleep, a complete rest of all his being within simple unconsciousness". (83)

The author explains the power of prayer on several occasions. This strong multicultural fervor prevailing at Rameswaram, his home town reechoes throughout the book. He admires the characteristic of religious tolerance of the citizens in Rameswaram. He internalized these virtues in his childhood. His family instilled these doctrines in him. To him God has knowledge of all things.

### **Integration of the three knowledge:**

According to him God has made human beings to express Himself. Every individual has a mission. So the human beings, world and the God are inseparable. They are not three

different kinds of knowledge; they are three channels of this very source. There is one central law that governs this world. There is a specific time for everything to happen. A human being is a medium for the Almighty to express through. Even while working on the project of missile development, his God orientation was infallible in that he "...maintain a working partnership with God" (49) God expressing through human beings is the central conviction in his discourse. In August 1985, he happened to visit the Crystal Cathedral in San Francisco built by his favourite author, Robert Schuller. Quoting Schuller he adds: "God can do tremendous things through the person who doesn't care about who gets the credit. The ego involvement must go. Before God trusts you with success, you have to prove yourself humble enough to handle the big prize." (134) Thus we can fairly infer that Dr. Kalam believes that it is God's grace that flows through him in the form of the technological inventions. He revolutionizes the very conception of God and conceptualizes it in the light of human welfare and social transformation.

At St. Joseph's while studying subatomic physics, the concept of half-life period of radioactive substances particularly attracted him and he realized that decay is inherent in everything. He questions as to "why some people tend to see science as something which takes man away from God...science has always been the path to spiritual enrichment and self-realization" (15) He admires "the collective wisdom" (132) of the humanity in taking strides towards technological self-reliance. He began to conceptualize that there is a spiritual reality beyond the physical world and that true knowledge could be obtained through inner experience alone.

## Conclusion:

Dr. A. P. J. Abdul Kalam's *Wings of Fire* offers a unique epistemological view. It flows through his philosophical, psychological and spiritual ideas. He has evolved his unique theory of knowledge. Insight has been the most important aspect of his perspective on knowledge. He has a keen interest in human beings, their thought process, action-reaction, aspiration and behavior. He developed this sort of insight into human psychology owing to his involvement in crucial scientific projects. The book has got many dimensions. Approaching it from epistemological point of view is a rewarding exercise in this context.

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