Memoir – A Cherishable Diary of A P J Abdul Kalam

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Life Narrative or an autobiography is a valuable gift to one's children and later descendents. All are inherently interested in our forebears, and it stands to reason that all descendents will be interested in those as well.

An autobiography is a way to analyze oneself. Many people write their autobiographies in an attempt to explore their own past and discover new truth about themselves. I find that meaning emerges in our lives mostly upon reflection, and writing a book length work about oneself necessarily requires a lot of reflection. Every individual human being is the best creation of the Almighty, created in God's own image, and knit together in a mother's womb in a fantastic and distinctive way. But while we put an insight into one's life we find that God's plan for one's life is different from any other person's and the skills and talents that He gives to every individual equip one for life ahead – his life, his path, his responsibilities, and his ministry. Memories fade as one enters that life ahead, but written documentation lasts.

"Life isn't about finding yourself. Life is about creating yourself"

As George Bernard Shaw said rightly, it is found to be proven in the autobiography of APJ Abdul Kalam's *Wings of Fire* as people reads it they can be the witness of a creation of a common man to someone extra ordinary and a renowned personality known by the whole world. A person who introspected himself and also he was guided by his relatives who advised him throughout and was able to create an eminent personality out of him.

By sharing the stories of one's life narrative one can be able to construct a better designed life to their descendants. Just the same one feels when they look into the autobiographies of great persons and among them one is APJ Abdul Kalam's ***Wings of Fire.*** APJ Kalam's "Wings of Fire" is an autobiography, detailing the major events of Kalam's life. According to Kalam, the novel reveals the picture of his life, in a manner similar to bird's eye view, as seen from a far. In sharing this story, with the people Kalam has tried to give some insight into his journey of life, the story of the making of a scientist. Kalam expects that his story will equip atleast a few young people to stand up to the authoritarianism in our society. In his book, Abdul Kalam has referred about some of his relatives and friends also who have inspired him throughout. They were not too much educated but still they had some exposure about the earthly possession of life and they upgraded their knowledge from the day to day experiences. So he maintained a uniform characterization throughout the autobiography.

Kalam was born in 1931, the son of a little educated boat owner in Rameswaram, Tamil Nadu. He had an unparallel career as a defense scientist, achieving the highest civilian award of India, Bharat Ratna. As a chief of the country's defense research and development programmer, Kalam demonstrated great potential for dynamics and innovations that existed in seemingly mortal research establishment. This is the story of Kalam's own rise from vagueness and his personal and professional struggles, as

well as the story of AGNI, TRISHUL and NAG missiles that have become household names in India and that have raised the nation to the level of a missile power of international reckoning. Since independence, India has sought in various ways, to self realization, and fortunately, also to adulation and success.

It is story of courage, inspiration leadership and motivation. The book tells us how important it is to value the people around us in order to grow as a person. The book talks about the millions of people who have contributed to the life of Mr. Kalam, which tells us that a great personality is just not built out of his individual talent but several other's collective effort helps a common man to turn into a complete personality. In Wings of fire one notices the continuous development of a simple life to an extra ordinary one. The book begins with the childhood of Kalam's life. In the beginning he introduces us to his family and tries to familiarize with his birth place Rameswaram. In the childhood he was a great admires of his father, Jainulabdeen. He was a man of great wisdom and kindness, and Pakshi Lakshmana Sastry, a close friend of his father and the head priest of the Rameswaram Temple. He had an ideal helpmate in his mother, Ashiamma. He was also influenced by his close friend, Ahmed Jallaluddin; he was about 15 years older than Kalam. With his friend he talked about spiritual matters. This shows that he believed in spirituality and also believed in God and Khudah. He always went to Lord Shiva's temple with his friends who eventually reveals the belief of multi community in him without making any differences between people and shows a side of universality and equality among all citizens of a country. The later part of the opening chapters, he introduces his cousin Samsuddin, his school teachers and all the people who were felt any difference amongst them. Here he expresses one event, which happened in his school days, Rameswaram Sastry, a new teacher of his school he could not stomach a Hindu Priest's son sitting with a Muslim boy. In accordance with our social ranking as the new teacher saw it, I was asked to go and sit on the back bench. I felt very sad, and so did parents about the incident. Lakshmana Sastry summoned the teacher, and in our presence, told the teacher that he should not spread the poison of social inequality and communal intolerance in the minds of innocent children. During the whole of his childhood he has given the references of different persons who influenced him mostly regarding knowledge and education and sometimes even they themselves were found not to be educated with any paper degree but a lot of knowledgeable and enlightened through life but they were capable of guiding young Kalam to expertise.

He completed his school education in the Rameswaram Elementary School and Schwartz High School, Rameswaram. In 1950, he joined St. Joseph's College Trichi, to study for the B.Sc degree course, when he realized that physics was not his subject. Then at last, he applied in Madras Institute of Technology, MIT. He or his family could not be able to spend that much of money for the course of MIT. Zohara, his sister stood with him. When he had in specific branch of aeronautical engineering, the goal was very clear in his mind at that time. And he tried to communicate with different kind of people. In MIT, there teacher shaped his thought, Prof. Sponder, Prof. Kal Pandalai and Prof. Narasingalu Rao. Each of them had carried distinct personalities. Last years of MIT was a year of transition and lose a great impact on his later life. From MIT, he went out to Hindustan Aeronautics Limited, [HAL], at Bangalore as a trainer. There

he worked on engine overhauling as part of a team. He has trained in radial engine-cum- drum operations.

After the completion of engineering, he had applied for the Air Force and Directorate of Technical Development and Production –DTD and PC (Air) of the Ministry of Defence. But in Air Force he was not selected because of his physical fitness. And he was appointed in DTD and PC (Air) as senior scientific Assistant on basic salary only of rupees 250/- per month, in 1950. He had to create opportunities by his own. He never looks back from the original dimensional. At the stage he covered 32 eventful years of his life, when he was just on the threshold of his career after graduation.

Nearly half of the book goes through the 'CREATION' phase. The periods of his life were 1963-1980. One sees Kalam managing and inspiring large scale developmental projects based on rocket technology. This was an adventurous path of his life. Kalam started his work at NASA at the Largely Research Center (LRC) in Hampton, Virginia. This is primarily as R & D center for advanced aerospace technology. Because of the India's first rocket, called NIKE-APACHE, made at NASA, as soon as possible he came back to India. In this project he was in charge of rocket integration and safety. D Easwardas and R Aravamudan, his colleagues played a very active and crucial role in the launch. After the succession of NIKE-APACHE, Prof. Sarabhai had chosen them to share his dreams of an Indian Satellite Launch Vehicle (SLV). In 1963 he was in INCOSPAR, the Thumba Equatorial Rocket Launch Station (TERLS) was established through active collaboration with France, USA and USSR. The real journey of the Indian aerospace programme began with the Rohini Sounding Rocket consisted of single solid propulsion motor waiting a mere 31 kg. The programme had brought into the country technology for the production of very high performance solid propellants. Kalam has willingly thanked the technological vision of Prime Minister Pandit Jawaharlal Nehru. But neither Prime Minister Nehru nor Prof. Sarabhai had any ambiguity of purposes. Their vision was very clear about advanced technologies into the real life problems. After that in Thumba, Prof. Sarabhai and his team, along with Kalam took the decision that they would make India's own rockets or our own Satellite Launch Vehicle (SLV). Prof. Sarabhai assigned him to payload scientist. Almost all physical laboratories in India were involved in the sounding rocket programme, each having its own mission, its own objective and its own payload. And he noted all the events which had happened in that project, including the event of explosion in the room and his colleague – Prof. Sudhakar was affected because of it. He quoted some lines from the book of George Barnard Shaw, which was read by uncertainty. He also noted a group meeting held by Prof. Sarabhai for a plan of a Rocket Assisted Take off System (RATO), for military aircraft with group captain VS Narayanan from Air Headquarters. The RATO project was a new game; he had a clear picture in his mind and took the RATO project in his hand. At that time he met a young colleague, Jaya Chandra Babu, who had joined a few months ago with the help of Sarabhai. Without any second thought, he approved the proposal of Kalam. They conducted the first static test of RATO after 64 - static test in sixteen months of project. The project SLV had also been conceived at that time. Prof. Sarabhai was concentrating on the east coast in order to let the launch vehicle take full advantage of earth's west to east rotation. Then he finally selected the Srihari Kota Island, 100 km north of Madras, and

the SHAR Rocket Launch Station was born. The crescent shaped island had a maximum width of 8 km alongside the coastline. The island is as big as Madras city. The Buchingham Canal the Pulicat Lake forms its western boundary. In the INCOSPAR was reconstructed as an advisory body under the Indian National Academy (INSA) and the Indian Space Research Organization (ISRO) was created under the Department of Atomic Energy (DAE) to conduct space research in the country. At that time Prof. Sarabhai had selected a team to give form to his dream of an Indian SLV. He considered himself to be chosen as a project leader. But Prof. Sarabhai gave him the additional responsibility of designing the fourth stage of the SLV. Dr. VR Gowaricar, Mr. Kurup and AE Mutunayagam were given the tasks of designing the other three stages.

The progress did recognize and reinforce access to all the information that they had needed is given by Kalam. At that stage Prof. Sarabhai brought a French visitor, Prof. Curien, president of CNES (Center National de Etudes Spatial), a counter part in France. They were the developing the Diamont Launch Vehicles. Prof Sarabhai and Prof. Curian helped him to set a target, but as a matter of fact, the Diamont and SLV airframes were incompatible for certain reasons. Though he was a leader he wanted to share whatever little development had been achieved through results, experience, small successes and the like seemed him to worth to putting all hid energy and time into. He said that, "it was a very small price to pay for that commitment and sense of teamwork, which could in fact be called trust". At the time of delivery to CNES, they suddenly cancelled their Diamont BC programme. It was a great shock for him after Air Force chapter in his life he did not lose hope and used it into the RATO, as the vacuum part of the Diamont BC stage. And the RATO system was successfully tested on 8th October 1972 at Bareilly Air Force Station in Utter Pradesh.

When the RATO project was underway, the SLV project slowly started taking shape. In five years, since 1966 to 1971, about 22 scientists and engineers had worked closely with Prof. Sarabhai and Kalam. All of them were to take charge of important presentation about SLV-3. Here, Kalam had introduced his presentation about SLV-3 against his team companion and Prof. Sarabhai all the senior scientists were impressed after seeing his work.

At the Vikram Sarabhai Centre, work on the SLV went on at full swing and he was appointed the project manager – SLV and reported directly to the Director, VSSC. It was a challenging task for him but he was remided of his father's words, whatever he used from the Holy book QURAN,

"We have sent no apostle before you who did not eat or eat about the market squares. We test you by means of one another. Will you not have patience?"

He was aware of the contradiction that often occurred in such situation. While working he was always reminded of lines from the QURAN the phase "creation", Chap-7, noted the working style of Kalam. First he did clean the table, within next ten minutes scan the paper and quickly divided them into different categories. Then he had kept the high priority paper in front, and started working accordingly. While the working on the life part of the SLV, there was the complex electrical circuitry, which

was set the mechanical structures in motion. All that manufacturing function came gradually in progress. At present time he recalls one thing in written form;

> Beautiful hands are those that do work that is earnest and brace and true moment by moment The long day through.

He was also interested in literary work, and therefore, quotes then often. He offer joined in intellectual debates with Prof. Dhawan were he was very stimulated and could always energize his mind.

In between, his father had passed away. He had been on poor health for quite some time today and reminded it in each and every steps of life.

Finally he had written for his father;

> Earth, receive and honoured guest;
> William Yeats is laid to rest;
> In the prison of his days Teach the free man hot to praise.

In words, he wanted to say that it is the death of a common man, no public mourning was organized, no flags were lowered to half-mast, and no news paper carried an obituary for him. He was not a politician, a scholar, or a businessman. Though, he was committed to his works keeps performing. This was the time of his best creation of life that was SLV. The first experimental flight tailed of SLV-3 on August 10, 1979. But when they were spellbound to saw top flying in the form of the SLV-3, the spell was broken. The second stage went out from the control, including his favorite fourth stage the payload spell ashes into the sea, 560 km off Sriharikota, after just 317 second of take off. Such a thing that this was the abortion of the SLV-3 Diamont fourth stage- all came alive in a flush, like a long buried phoenix rising from its ashes. At that time he was completely saturated mentally, as well as physically. He went to his room and slumped on the bed. Dr.Brahm Prakash gave him vital emotional support, entire responsibility for the SLV-3 failure. But Prof. Dhawan got up said, "I am going to put Kalam in orbit"! On 17th July 1980, 30 hours left before the launch of the second SLV-3, the Newspapers were filled with all kinds of predictions. One of the Newspapers reported that, "The project Director is missing and could not be contacted." At next day, 18th July 1980, at 08:03 hrs to be precise India's first Satellite Launch Vehicle, SLV-3 lifted off from SHAR. At 600seconds before take-off, Rohini Satellite entered into its orbit. And within the next two minutes, Rohini was set into motion in the earth orbit, that he used the word which he ever uttered in his life,

> Mission Director calling all stations. Stand by for an important announcement. All stages performed to mission requirements. The fourth stage apogee motor has given the required velocity to put Rohini Satellite into orbit.

There were happy cries everywhere, and he was lifted by his jubilant colleagues onto the shoulders and carried in a procession. Whole nation was excited and it was both the culmination of a national dream into reality and the beginning of a very important era in our nation's history. Prime Minister Indira Gandhi also congratulation. He was very happy to achieve the successful launching the SLV-3. At that time India was the fifth country to achieve Satellite Launching capability and thus propelling India entered into space age. He is seen as engineer and innovator of

teams and institutions. This also brought Kalam, his first brush with fame, adulation and inevitably, professional rivalries due to jealousy.

In the 'Propitiation' phase, Kalam was going into the defence stage of his career, breathing fresh life into struggling research institutions under the Defence R & D organization, and in February, 1982, he was appointed as the Director of DRDL. They involved him into several technology oriented activities and missile systems in future. Meanwhile only for Kalam, Anne University, Madras, conferred the honorary degree of Doctor of Science. He collected the degree of aeronautical engineering after twenty years. He joined DRDL on 1st June, 1982. One day the chief of naval staff visited to DRDL, and he took the opportunity to discuss the Tectical Core Vehicle (TCV). The Tectical Core Vehicle project had been hanging fire for quite some time, and here he expressed his experience of ST. Joseph College and DRDL. After that, Kalam was selected as the representative of the south block. The representation was presided over by the Defence Ministry of the time R Venkataraman, and attended by the tree service Chief General Krishna Rao, Air chief Marshal Dilbag Shing and Admiral Dawson, and arranged the question-answering session in the presence of Dr. Arunachalam and Defence Minister Venkatraman for the India's her own missile system. The concept of missile systems passed but the problem was that the government sanctioned only Rs 100 crores. That was a time when Kalam wanted to attend a wedding ceremony of Zameela, his brother's daughter, at Rameswaram. But he could not attend this occasion because of the professional preoccupations at Delhi, and concentrated on his work.

The Defence Minister put up the proposal before the cabinet, and his recommendations were accepted and an unprecedented amout of Rs 388 crores was sanctioned for this purpose. Thus, it was birth of India's prestigious Integrated Guided Missile Development Programme, and later abbreviated to IGMDP. The surface to surface system India's self-reliance weapon system became 'Prithvi' ("the Earth"), the surface to Air area defence system was named as 'Akash' ("Sky"), and the antitank missile project 'Nag' ("Cobra"), but Kalam gave the name 'Agni', ("Fire"), to long cherish his dream REX. Dr. Arunachalam came to DRDL and formally launched the IGMDP on 27th July 1983. It was a great event in which every single employee of DRDL participated. Everybody was invited from the Indian Aerospace Research. These were the most significant days in his life. The launch of the IGMDP was like a bright flash on the Indian scientific firmament.

In next few chapter of 'Propitiation' phase, he discusses about Prithvi, Akash, and Trishul and all the missiles weapons, and its problems, difficulties and at last succession of launching programme on various time.

In the last phase of the novel, Kalam presents some good lines from the Quran;

We create and destroy
And again recreate
In forms of which no one knows.

As Kalam moved into the 'Contemplative', phase of his life, a grateful and worshipful nation heaped its highest awards on his greatness, and ironically, also

made him to take wider ranging responsibilities in the field of science, technology and defence of realm.

1990, a time of Republic day of nation, the nation celebrated the success of its missile programme. And he was conferred as the Padma Vibhushan along with Dr. Arunachalam. It was the first time in history of free India that so many scientists affiliated on the same stage. After that he shares his joy with his science father, Prof. Sarabhai and Dr. Brahm Prakash. There are some good lines which were taken from his diary;

Away! Fond thoughts, and vex my soul no more!
Work claimed my wakeful night, my busy days
Albeit brought memories of Rameswaram shore
Yet haunt my dreaming gaze.

He gives all credit to the many great visionaries, who prepared him for this life, especially Prof. Sarabhai, Dr.Dhawan, Dr. Brahm Prakash and his great father with love.

The first launching programme of the 'Agni', Kalam moved to the ending part of the story. In last few pages he tries to analyses himself as the human being, and he says:

"I am not a philosopher, I am only a man of technology, and I spent my life learning in rocketry." He ends the book with the fervent prayer that eventually the country will become strong, prosperous and 'developed'.

I am a well in this great land
Looking at its millions of boys and girls
To dram from the inexhaustible divinity
And spread his grace every where
As does the water drawn from a well.

This is the story of a man who came from a remote provincial small town in India and went on to become top technocrat before his ascent to the highest office in the land. Avul Pakir Jainalbdeen Abdul Kalam is an intensely humble, spiritual and brilliantly insightful man. Through sheer grit, determination, hard work, and a brilliant mind, he transformed the Indian defence research establishment, and went into hold some of the most sensitive jobs in government. In this whole process, he epitomized himself as an excellent visionary and an awesome project manager while leading the development of the entire Integrated Guided Missile programme that resulted in the development of all modern Indian Missile that's how he was named as the missile man of India. Developing and mastering indigenous technologies, Dr. Kalam showed that even in the depth of despair, there is hope, and tremendous technological achievements are indeed possible with the right mix of talent, hard work, fair play, and motivation. Dr. Kalam is a genuine Indian Hero and his election as the president of India was rightfully deserved. He is Indian to the core and he truly gave India a position and voice of 1 billion people to be heard which was otherwise neglected by the west even though it is a great secular peaceful democracy. He gave the country an inspiration on how to dream and go on to realize them. He created an innovative

vision in the minds of the youth to desire for a knowledgeable society built up in India where the people will gain enough knowledge to bring development in technology and use the technology in right sense: two components for the knowledge society was envisaged by him were Societal Transformation and Wealth Generation.

Dr. Kalam was even the professor of Technology and Societal Transformation, Anna University, Chennai. On 25 July 2002 he was sworn in as the eleventh president of India.

As Arun Tiwari pointed out about *Wings of Fire*, "writing this book has been like a pilgrimage," then for the reader, reading it has been an equally stimulating and uplifting journey through a mind riding on the wings of science and soulful spiritualism. Kalam's exhortation to all of us is that, we should give wings to the divine fire, we are born with and have within us, and this will, "fill the world with the glow of its goodness," he has tried to include in this book only a few incident among the many narrated by Kalam.

This autobiographical account has been one of the most inspiring book especially for the youth. The book also goes beyond biography, and serves as an excellent practical guide to R & D management, on how to design and build institutions, mentor and inspire men, to success and fulfillment. As to discuss about the structure of the book, Kalam chooses to organize the autobiographical material into four sections: Orientation, Creation, Propitiation and Contemplation – devoted roughly to the 32 years (1931 – 1963), next 17 years (1963 – 1980), another 10 years (1981 -1991), and beyond. In between the entire works on process of learning rocketry, Kalam had spend time for reading literary books, like Coleridge's "The Ancient Mariner" and the holy book Quran. And there is also an epilogue in this book. It presents the proper end of the book with whole concept of the book.

This book is interwoven with his deep involvement in india's first Satellite Launch Vehicle SLV-3 and Prithvi, Akash, trishul and Agni programme. In the epilogue he has to posses that future nation as a 'developed' nation. He prays for the two dream plans of the nation; – Self Reliance Mission and Technology Vision of 2020 – will eventually make our country strong and prosperous, a 'developed' nation.

A very refreshing person, giving a glimpse of what the power of positive thinking can help you achieve, given the short comings of the beauroucracy in a country such as India. The humble beginning, hard work, persistence, and above all a passion for life and all things that are possible in it, are all well described in the book.

Conclusion:

After reading the book it makes one feel that one know the man more intimately, his humility strikes all down. "The unexamined life is not worth living," said Socrates more than two millennia ago. Here, all have in print, a well-examined life of the icons of the postcolonial technological renaissance of the country. The account often goes deep into his own personal philosophy, austere beyond the reach of most average householders, and fortunately for posterity, records his philosophical and spiritual insight a most accessible way. The book is very well laid out into different phases of his life. Beating all odds, the man reached out to the stars, and has become one.

Kalam as a person is an extremely humble individual with a very humble background. He is an extremely spiritual person without any fundamentalism in his religious belief. He has faith in God as an all powerful source of energy, energy that can be felt flowing through ones existence when we come in close mental contact with God. His religion is that of humanity, one which unites the various forms of God. He was a born muslim but no way it has segregated him with other communities from his innocence phase upto adolation. He expertized chanting lines from Quoran to even Bhagwad Gita to address any human beings and always he practiced good teachings in his life. As Kalam himself says that he has always been a religious person in the sense that he maintains a working partnership with God. He believes that the best work requires more ability than he possesses and therefore he needs God's help. He makes a true estimate of his ability then raises it 50% and puts himself in God's hands. In this partnership, he has always received all the power he needed and in fact even felt it flowing into him. He affirms that the kingdom of God is within us in the form of this power. This power helps to achieve one's goal and realize one's dreams. He may not be an example to others, but a few souls may draw inspiration and come to balance that ultimate satisfaction which can only be found in the life of the spirit.

The autobiography can be hence concluded as an account of some diary pages of one's life which are as neat and tidy as framed by expert hands. Abdul Kalam's accountability towards inspiring the youth of the country to seek for innovation and desire for excellence demands reading by all human beings. His universal presence in the form of all religion to gather more and more knowledge and refinement of one's heart and also acquiring more strength for one's work needs to be emulated. Kalam learned the various philosophies of his versatile life from relatively simple people in his life like his father Jainalabdeen and brother-in-law Jalaluddin. His simple school and college teachers like Subramaniam Iyer and Rev. Solomon who made the first and lasting impressions on his persona. These various philosophies of life have modeled Kalam, the way he is.

So following the words of Samuel Johnson words:

If you can imagine it you can create it. If you can dream it, you can become it.

When making your choice in life, do not neglect to live.

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