HOMAGE TO DR. A.P.J. ABDUL KALAM – A VISIONARY INDIAN

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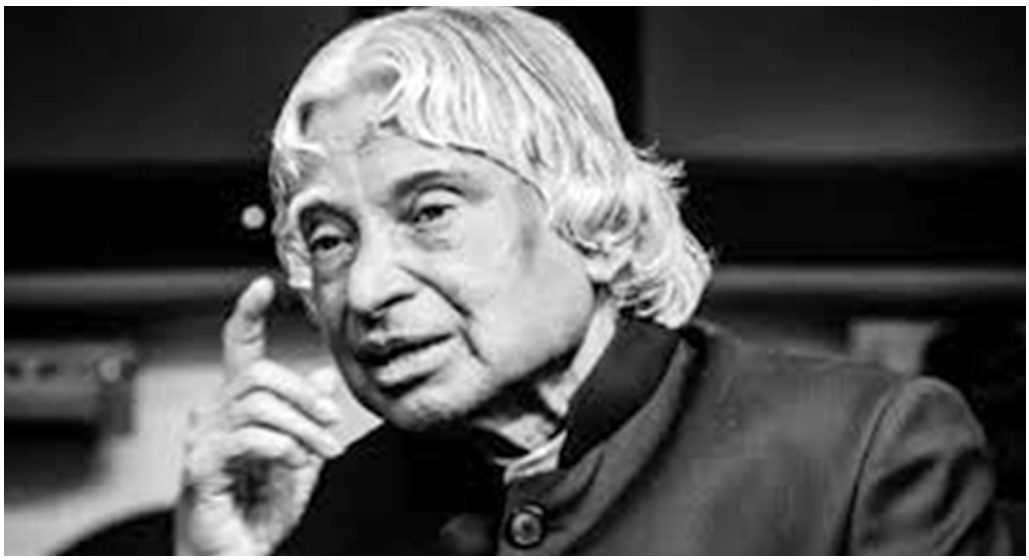
"DONT READ SUCCESS STORIES, YOU WILL GET ONLY MESSAGE. READ FAILURE STORIES, YOU WILL GET SOME IDEAS TO GET SUCCESS"

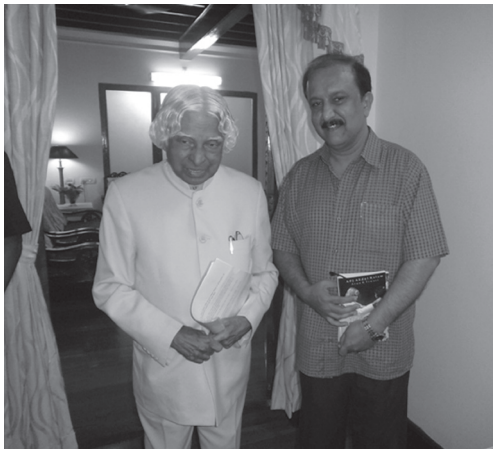
This is one among the hundreds of quotes attributed to Dr. Abdul Kalam. Like many of his other quotes, the message is quite clear to any one who would like to be successful in life. To enjoy success, we should have tasted failure. If we observe closely the life of any achiever, we might see plenty of failures. One would even be prompted to say that behind the success of every success, there is a failure!.

This article is on the life and works of Dr. Kalam as a student, a teacher, a team leader, the President of India and above all a great visionary. It is also expected to be a sequel to the one entitled 'A meeting with the missile man' (Science India, November 2003), an article which I wrote due to the electrifying effects of meeting him for the first time on 24th September, 2003, when he was the President of India. Hence this article will also have some personal anecdotes.

Abdul Kalam was born on 15th October, 1931 in a small village Rameswaram of Ramanathapuram district, Tamil Nadu. His parents, Jainulabdeen and Ashiyamma were his role models. The strong religious restrictions that prevailed in those days had little influence on Kalam. His close friends and mentors were mostly orthodox brahmins. He often shared all his childish excitements with them, had food together, walked together and enjoyed his school days. Though a devoted Muslim by



birth he was respecting equally or even more the other religious practices. Some of his school teachers like Shri Sivasubramanya Iyer even broke all the traditional customs to encourage Kalam as a school student to start a successful career. The presence of several Hindu temples near his house had profound influence on his outlook towards life, that of sharing and caring.



The author with Dr. Kalam

Kalam once asked his father on the relevance of prayer. He said "When you pray, you transcend your body and become a part of the cosmos, which knows no division of health, age, caste or creed." Kalam owed his first 'salary' to his first cousin Samsuddin who was the sole distributor of news papers in that locality. The news papers used to arrive at the Rameswaram railway station and Kalam helped his cousin to distribute these papers to the scholarly people interested in the independence movement.

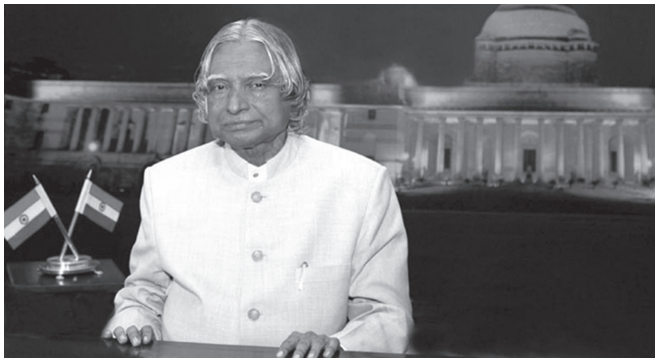
Kalam had his primary education at the Schwartz High School, Ramanathapuram, where he was taught that, to succeed in life one need to master three forces - desire, belief and expectation. From the childhood itself he had fascination towards the mysteries of the sky, the flight of birds, which inculcated in him a spirit of enquiry, which finally made him learn the fundamentals of aerodynamics. Kalam joined St. Josephs College, Tiruchirapally in 1950 opting Physics as the main course of study though mathematics also was his favourite. Moving to Madras Institute of Technology (MIT) he had the first chance to see the various sub systems of flying machines which encouraged him to focus his studies more on aerodynamics and its engineering aspects. His first article was in Tamil language entitled 'Let us make our own aircraft'. Surprisingly later he made an unsuccessful attempt to join the Indian Air Force.

The author at St. Joseph's College

After graduating from MIT, he was trained at the Hindustan Aeronautics Limited (HAL), Banglore. His first job was in 1958 as a Senior Scientific Assistant with a mere salary of ₹ 250/- at the Directorate of Technical Development and Production. Shri V.K. Krishna Menon, the then Defence Minister may be the first non-scientist who gave the 'GO AHEAD' signal to Kalam for his projects on the development of

hover crafts. Volumes have been written on the life of Kalam as a scientist, a team leader and a visionary, during his service in VSSC and DRDO, his successful and failed missions of developing indigenous space programmes, as also stories of his training under luminaries like Vikram Sarabhai, Brahma Prakash, Sathish Dhawan, M.G.K. Menon and also the development of major missile projects like Agni , Prithvi, Nag, Akash etc. by a team of dedicated scientists numbering around 500. In fact the life of Kalam and his various assignments over a period of more than 20 years is actually the history of the space programmes in India. In some sense, one could even say that almost every space programme of ISRO had his divine touch. Kalam had the unique distinction of working in the three major establishments - ISRO, DRDO and DAE.

Any article on Kalam will be incomplete without a mention of the shaping of various space science programmes in India, at least briefly. Kalam's entry was first in the Indian Committee for Space Research (INCOSPAR) as a Rocket Engineer. He was fortunate enough to have been interviewed by Dr. Vikram Sarabhai (whom he described later as the Mahathma Gandhi of Indian Science), Prof. M.G.K. Menon the then Director of TIFR and Shri Saraf, the then Deputy Secretary of the Atomic Energy Commission. In 1962, INCOSPAR had almost decided to set up the Equatorial Rocket Launching Station at Thumba, the location being its closeness to earth's magnetic equator. This could be termed as the beginning of India's modern rocket based research. Kerala - The God's own country could be proud that the religious amity that existed could easily solve the defunctioning of a church in that land area. The St. Mary Magdalene Church was blessed to be the first office of the present VSSC. The establishment of Thumba Equatorial Rocket Launch Station (TERLS), the Rohini Sounding Rocket (RSR), the merging of Space Science and Technology Centre, Rocket Propellant Plant, Rocket Fabrication Facility, Propellent Fuel Complex and the Indian Scientific Satellite Project (ISSP), Bangalore to form the VSSC after the death of Sarabhai in 1972 with Dr. Brahma Prakash as its first Director, the launch of India's first Satellite Launch Vehicle SLV-3 in 1980 etc. form parts of the history of Indian Space Research and its proud achievements.



Our country hounoured this great son for his leadership, vision and his contributions to various space programmes, first with the Padmabhushan in 1981 followed by the Padma Vibhushan in 1990 and a honorary degree of Doctor of Science from Jadavpur University, the same year along with the legendary South African leader Nelson

Mandela. He was conferred the Bharath Ratna - the highest civilian award of our country and the Indira Gandhi Award for National Integration, both in 1997. The last in this long list of recognitions was the Honarary degree of Doctor of Science in 2014 from the Edinburgh University, UK established in 1582. After his demise on 27th July, 2015, the Kerala Technological University established in 2014 was renamed as Dr. A.P.J. Abdul Kalam Technological University and the Uttar Pradesh Technical University was renamed as Dr. A.P.J. Abdul Kalam Technical University.

Now, let me recall some of my personal reminiscences of my meetings with this great personality. My first meeting was at Taj Malabar, Cochin on 24th September, 2003, when he was the President of India. After clearing the security formalities, I entered the room of the hotel where he was meeting some of his old contacts and some new friends like me. When I entered the room, he stood up, shook hands with me and asked, 'How are you Professor?'. He offered me a seat near him and asked me about the status of mathematics research in India, and our ancient contributions to mathematics. He was very keen to know that I was the Coordinator of the Mathematical Olympiad in Kerala. After discussing some other points of general interest, he asked me whether I was happy. My obvious answer was, YES. He then advised me to make all others also happy in whatever way possible. That was undoubtedly one of the turning points in my life.

After this first meeting, I had many meetings with him, mostly one to one at the Government Guest House in Ernakulam, which was his usual lodging place whenever he visited Cochin. During such meetings we discussed about the contents of his online periodical Billion Beats, status of the mathematics education in the country, especially in schools, on the life and works of some great Indian mathematicians etc. I had observed that he was quite fond of mathematics. During all the meetings one quality that I found in him was his willingness to listen to others and showing keen interest in what others do and encourage them to the maximum possible extend. This is a quality that we seldom find among celebrities. Once he asked me, why I was meeting him quite often. He liked very much my answer that, it was to get 'charged'. I met him again on 3rd June, 2013 night in the Guest House, when I handed over to him a compilation of my articles written in Malayalam and English which had appeared in various magazines and in 'Padhippura' of Malayala Manorama, on various aspects of mathematics such as the mathematics of the planet earth, teaching of maths through postal stamps, the science of secrecy, Collatz problem, palindromes, about Ramanujan, C.R. Rao, S.R.S. Varadhan, R.C. Bose, S.S. Shrikhande, Mandelbrot etc. He had glanced through

these articles and expressed his desire to meet me again to his Secretary Shri R.K. Prasad. It was already midnight! So, I met him the next day afternoon. He expressed a deep sense of appreciation and offered me some financial assistance for my mathematics popularization project and wished the very best and wanted me to write many more such articles to enthuse students. My last meeting with him was on 27th December, 2013, on the occasion of the Golden Jubilee celebrations of the St. Xavier's College, Aluva, Kerala. I shared the dais with him, when he enthralled the girl students to follow the model of Marie Curie and other women luminaries.

Let me now mention some interesting anecdotes from his life, as described in his book, Turning Points - A Journey Through Challenges (Harper Collins, 2012), the book which he described as the sequel to his best seller, Wings of Fire (United Publishers, 1999). On 10th June, 2002, while he was visiting the Anna University in Chennai for delivering a talk entitled 'Vision to Mission', the then Prime Minister Shri Atal Bihari Vajpayee called him over phone and expressed the desire of the entire NDA that he be the next President of India. He politely accepted the offer after having a hectic consultations with his friends from every strata of life and wished that he be the unique choice of all the political parties. Though there was an election, he won with a handsome margin and was sworn in on 25th July, 2002. A less known incident could be the invitation of Shri Vajpayee in March 1998 to join his cabinet as a Minister. Kalam told Atalji that he is busy with two missions of national importance which he did not want to leave at that stage. Atalji replied

that "I appreciate your feelings, Go ahead, God bless you".

Let me conclude this article with two quite exciting episodes in the life of Kalam, which may be unique for him. 26th May is declared in Switzerland as 'Science Day' to mark the visit of Kalam to that country on that day in 2005. The people of that country appreciated his great wisdom and scientific knowledge.

On 25th April, 2007, he addressed a group of about 785 representatives of 27 member states of the European Union. His lecture was entitled 'Dynamics of the Unity of Nation' in which he emphasised the historical tradition of our country, the need of an education system with a value system, the need for achieving energy independence in India etc. The talk was very much appreciated by the international community and was described as the most inspiring one heard from a statesman, scientist and a poet. It is reliably learnt that the draft of lecture was corrected by himself at least 30 times.

It is more than eight months that this great visionary left us to the heavenly abode. He sincerely believed that, to make India a corruption - free and a beautiful nation, only three societal members can play a significant role - the mother, the father and the teacher.

We feel that a befitting memorial to him could be the establishment of an International Knowledge Centre at Delhi to encourage inter-disciplinary research and declaring the 15th October as the National Science Popularization Day. Kalam said "I will always be with you, dear citizens, in the great mission of making India a developed nation before 2020", a dream which could not be fulfilled. Let us all salute this great human being!

Suggested Reading:

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