

Dr. A.P.J. Abdul Kalam - The man who won hearts !

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I was, probably, in 5th standard when I first heard of the name "Dr. A.P.J. Abdul Kalam", thanks to the G.K. textbooks. His name appeared in several chapters like "Great men", "Great Scientists", "Who's who", "Space science" and many more. One of his photos had the caption "India's missile man". His photos on those books had his everlasting smile and simplicity. Of course, at that time, I had no idea of how great a man he was. Our teachers would regularly mention his name to inspire us. Then in 2002, when I was in 9th standard, Dr. Kalam became the 11th President of India and I remember that each and every person around me - my friends, seniors, teachers, parents, neighbours - were delighted about it. I realized that he was the person whom the whole country wanted as the President. I used to listen to the President's address to the nation on the eve of Republic Day and Independence Day. His address was unique in its own way. It seemed as if he was talking personally to the viewer in simple but motivating words. He stressed on the need to build up a developed India by 2020 and through his words he used to motivate every citizen to take part in the process of development. He was the President of the largest democracy in the world but so simple and yet so energetic, so soft and yet so determined, so frank and yet so great ! Naturally he became a role model for millions of enthusiasts across the country. This write up is just an attempt to highlight some aspects of the life and works of Dr. Kalam, taken mainly from his autobiography "Wings of Fire". In the end I will share my experiences of hearing his speech when he came to NIT Silchar.

The Missile Man (Photo Courtesy : www.smilefoundationindia.org)

Writing on Dr. Kalam can't be complete without a reference to his famous autobiography "Wings of fire". The very first inspiration comes from Author's introduction part - "Kalam has maintained the ascetic rigour of his personal life, working 18 hours a day and practicing the veena. With characteristic modesty, Kalam ascribes the greatness of his achievement to the influence of his teachers and mentors."

He dedicated his autobiography to his parents and in fact he starts with a poem dedicated to his mother. I quote a few heart-touching lines from his poem :

*I still remember the day when I was ten,
Sleeping on your lap to the envy of my elder brothers and sisters
It was full moon night, my world only you knew
Mother! My Mother!
When at midnight I woke with tears falling on my knee
You knew the pain of your child, My Mother.
Your caring hands, tenderly removing the pain
Your love, your care, your faith gave me strength
To face the world without fear and with His strength.*

We will meet again on the great Judgement Day, My Mother!

Dr. A.P.J. Abdul Kalam was a versatile person - scientist, philosopher, poet all combined into one. Mr. Arun Tiwari, his student, colleague and co-author of Wings of fire, writes in the preface *“We had a long series of sittings late into the night and early under the fading stars of dawn — all somehow stolen from his very busy schedule of eighteen hours a day. The profundity and range of his ideas mesmerized me. He had tremendous vitality and obviously received immense pleasure from the world of ideas. His conversation was not always easy to follow, but was always fresh and stimulating. There were complexities, subtleties, and intriguing metaphors and subplots in his narrative, but gradually the unfolding of his brilliant mind took the form of a continuous discourse. When I sat down to write this book, I felt that it required greater skills than I possessed. But realising the importance of this task and regarding it an honour to have been permitted to attempt it, I prayed earnestly for the courage and calibre to complete it. This book is written for the ordinary people of India for whom Dr Kalam has an immense affection, and of whom Dr Kalam is certainly one. He has an intuitive rapport with the humblest and simplest people, an indication of his own simplicity and innate spirituality.”*

About Arun Tiwari, Dr. Kalam writes in the introduction *“I completed sixty years of age on 15 October 1991. I had decided to devote my retirement to fulfilling what I saw as my duties in the sphere of social service. Instead, two things happened simultaneously. First, I agreed to continue in government service for another three years and, next, a young colleague, Arun Tiwari, requested me to share my reminiscences with him, so that he could record them. He was someone who had been working in my laboratory since 1982, but I had never really known him well until the February of 1987 when I visited him at the Intensive Coronary Care Unit of the Nizam's Institute of Medical Sciences in Hyderabad. He was a mere 32 years old, but was fighting valiantly for his life. I asked him if there was anything he wanted me to do for him. ‘Give me your blessings, sir,’ he said, ‘so that I may have a longer life and can complete at least one of your projects.’ The young man's dedication moved me and I prayed for his recovery all night. The Lord answered my prayers and Tiwari was able to get back to work in a month. He did an excellent job in helping to realise the Akash missile airframe from scratch within the short space of three years. He then took up the task of chronicling my story. Over the last year, he patiently transcribed the bits and pieces of my story and converted them into a fluent narrative.”*

Born in a middle class family in the town of Rameswaram, Dr. Kalam went on to become the 11th President of India. He comes from a very humble background with very little educated people around. As he recalls his friendship with a relative named Ahmed Jallaluddin (who later married his sister Zohara), he writes *“Incidentally, at the time I speak of, he was the only person on the entire island who could write English. He wrote letters for almost anybody in need, be they letters of application or otherwise. Nobody of my acquaintance, either in my family or in the neighbourhood even had Jallaluddin's level of education or any links of consequence with the outside world.”* In his childhood he didn't have easy access to books but even then he managed to borrow books from the personal library of a former revolutionary S.T.R. Manickam. Eager to read newspapers at the age of eight, he assisted his cousin Samsuddin, a newspaper distributor, and used to satisfy himself by a quick glance at the pictures on the papers before Samsuddin delivered them to the customers. It was also the time he earned his first salary in form of wages paid to him by Samsuddin. *“Samsuddin helped me earn my first wages. Half a century later, I can still feel the surge of pride in earning my own money for the first time”,* he writes. He was seen just as a newspaper vendor by many people then but obviously none of them had ever thought that the child would grow up to be the first citizen of the country. Dr. Kalam is the best example of the fact

that one doesn't need a well-established family to achieve greatness, rather what one needs is courage, will power and determination.

The 11th President of India

(Photo courtesy : abdulkalam.hpage.co.in)

'Wings of fire' is itself an ocean of knowledge. Dr. Kalam mentions about one of his teachers Iyadurai Solomon at Schwartz High School, whom he describes as an ideal guide for an eager young mind. I quote a wonderful line which he wrote about his teacher - *"He used to say that a good student could learn more from a bad teacher than a poor student from even a skilled teacher."* After completing his high school studies, Dr. Kalam joined St. Joseph's College, Trichi to study intermediate. He continued studying in St. Joseph's and earned his B.Sc degree, after which he realized that he should have studied engineering to pursue his fascination with aircrafts. So he applied for admission in Madras Institute of Technology and studied aeronautical engineering. In his autobiography he talks about some of his teachers who made a lasting impact on shaping his creative skills as a school student in Schwartz High School, as an intermediate and as a B.Sc student in St. Stephen's College and then as an engineering student in Madras Institute of Technology. The teachers were also pleased to have Dr. Kalam as their student. Dr. Kalam describes a touching memory from MIT related to Prof. Sponder who used to teach him technical aerodynamics. He recalls, *"We were posing for a group photograph as part of a farewell ritual. All the graduating students had lined up in three rows with the professors seated in the front. Suddenly, Prof. Sponder got up and looked for me. I was standing in the third row. 'Come and sit with me in the front,' he said. I was taken aback by Prof. Sponder's invitation. 'You are my best student and hard work will help you bring a great name for your teachers in future.' Embarrassed by the praise but honoured by the recognition, I sat with Prof. Sponder for the photograph. 'Let God be your hope, your stay, your guide and provide the lantern for your feet in your journey into the future,' said the introverted genius, bidding me adieu."*

After completing his course at MIT, Dr. Kalam worked as a trainee in Hindustan Aeronautics Limited, Bangalore. Thereafter he applied for two jobs - one for a career in Indian Air Force and the other for a job at the Directorate of Technical Development and Production, DTD&P(Air), at the Ministry of Defence. As was expected, he got interview calls from both but he got selected for the latter. He joined as a Senior Scientific Officer on a basic salary of Rs. 250/- per month. After his praiseworthy performance in DTD&P and Aeronautical Development Establishment (ADE, Bangalore), he received a call from the Indian Committee for Space Research (INCOSPAR), to attend an interview for the post of Rocket Engineer. He was interviewed by the famous scientist Dr. Vikram Sarabhai, Prof. MGK Menon, the then Director, Tata Institute of Fundamental Research, Mumbai and Mr Saraf, the then Deputy Secretary of the Atomic Energy Commission. Of course he was talented enough to be absorbed as a rocket engineer at INCOSPAR. His talent, hardwork and dedication soon gave him the opportunity of a six month training programme on sounding rocket launching techniques, at the National Aeronautics and Space Administration (NASA, USA) work centres. Dr. Kalam was a person who had been involved with rocket development programmes of our country since the very beginning. He writes, *"Rocketry was reborn in India thanks to the technological vision of Prime Minister Jawaharlal Nehru. Prof. Sarabhai took the challenge of giving physical dimensions to this dream. Very many individuals with myopic vision questioned the relevance of space activities in a newly independent nation which was finding it difficult to feed its population. But neither Prime Minister Nehru nor Prof. Sarabhai had any ambiguity of purpose. Their vision was very clear: if Indians were to play a meaningful role in the community of nations, they*

must be second to none in the application of advanced technologies to their real-life problems. They had no intention of using it merely as a means to display our might."

Working in advanced labs is not an easy task. I would like to mention a paragraph from 'Wings of fire', which describes one accident involving Dr. Kalam and his colleague Sudhakar - *"Sudhakar was my colleague in the Payload Preparation Laboratory. As part of the pre-launch schedule, we were filling and remotely pressing the hazardous sodium and thermite mix. As usual, it was a hot and humid day at Thumba. After the sixth such operation, Sudhakar and I went into the payload room to confirm the proper filling of the mix. Suddenly, a drop of sweat from his forehead fell onto the sodium, and before we knew what was happening, there was a violent explosion which shook the room. For a few paralysed seconds, I did not know what to do. The fire was spreading, and water would not extinguish the sodium fire. Trapped in this inferno, Sudhakar, however, did not lose his presence of mind. He broke the glass window with his bare hands and literally threw me out to safety before jumping out himself. I touched Sudhakar's bleeding hands in gratitude, he was smiling through his pain. Sudhakar spent many weeks in the hospital recuperating from the severe burns he had received."*

Dr. Kalam being greeted by a student of Kendriya Vidyalaya, NIT Silchar (2013, PC - silcharnews.wordpress.com)

Dr. Kalam was a man having sincere dedication to his work. He performed superlatively well as team leader in various maiden projects of national importance, notable among which were the designing of an Indian SLV (Satellite Launch Vehicle) and RATO (Rocket assisted take off system) for military aircraft. Let us see how he describes a typical day in his work life - *"My day would start with a stroll of about 2 km around the lodge I was living in. I used to prepare a general schedule during my morning walk, and emphasize two or three things I would definitely like to accomplish during the day, including at least one thing that would help achieve long term goals. Once in the office, I would clean the table first. Within the next ten minutes, I would scan all the papers and quickly divide them into different categories: those that required immediate action, low priority ones, ones that could be kept pending, and reading material. Then I would put the high priority papers in front of me and everything else out of sight."* Each and every moment described by Dr. Kalam in his autobiography is a source of inspiration. He was one of the leading personalities behind India's success in defence and space research. He devoted his whole life to research.

I remember Dr. Kalam's visit to my hometown Shillong, Meghalaya in 2005. He was only the second President of India to visit Shillong after Dr. Rajendra Prasad, who visited the hill city in 1952. I was then a student of class XII Science in St. Edmund's College. I and my classmates were naturally very excited to have a glimpse of the great scientist. Luckily enough, St. Edmund's College is located just on the road via which the President's convoy was to pass then. Just a few days before the President's visit, all the speed breakers were levelled, bamboo railings were built on the footpath, the pine trees and road side walls were white-washed and a part of Shillong looked cleaner than ever. We positioned ourselves in a comfortable position on the footpath near the main gate of our college and waited eagerly to have a glimpse of our beloved President. There were hundreds of other people on both sides of the road waiting for the President to waive his hand at them. The wait was soon over as the convoy started coming in full speed. We were a bit disappointed as the first few cars had black tinted glass windows. We thought as if the President's car had already passed us. But suddenly the crowd burst into loud cheers. It was none other than Dr. A. P. J. Abdul Kalam waiving his hands to the people from inside his car. His everlasting smile

was visible and we felt ourselves blessed that we could see him for a few seconds.

Dr Kalam addressing school students at NIT Silchar, Assam (2013)

In 2013, I got a golden opportunity to listen to Dr. Kalam's inspiring words. Dr. Kalam was invited as the Chief Guest of the 12th Convocation of NIT Silchar. Just on the day before the convocation, the authorities of NIT Silchar and Kendriya Vidyalaya NITS organized an interactive session with Dr. Kalam for school students. Even though it was for school students, we the research scholars couldn't resist our temptation to hear from the great scientist and thus managed to enter the SAC building where the session was to be held. After about fifteen minutes, Dr. Kalam, the ex-President, arrived with his heart warming smile and ever enthusiastic attitude. The hall echoed with huge rounds of applause welcoming the great man. His speeches were very much different from the usual speeches which are delivered in various events. He always made it a point to involve the listeners in his speeches. As a result most of his lectures became lively interactive sessions. He used to keep his language plain and simple but yet his words never failed to encourage the listeners. He used to ask the students to repeat important lines after him a number of times. His style was indeed unique in its own way. He started the session by asking the students a question - ``*Why do you go to school?*'' This immediately made the hall lively with every student citing some reason or the other. Some students said that they go to school to acquire knowledge, some others said they want to learn various subjects and Dr. Kalam received all the answers patiently. He then formed an `equation' which he asked the students to repeat with him several times. This was the equation :

$$\textit{Knowledge} = \textit{Creativity} + \textit{Righteousness in the heart} + \textit{Courage}$$

He continued

Learning gives creativity, creativity gives you thinking, thinking provides knowledge and knowledge makes you great.

He mesmerized the audience with his simple but valuable one-liners-

When there is righteousness in the heart there is beauty in the character, when there is beauty in the character there is harmony in the home, when there is harmony in the home there is order in the nation, when there is order in the nation there is peace in the world.

It was an interactive session with a difference. Dr. Kalam was able to involve each and every person in his lecture. It's really a rare event when everyone in the hall listens attentively to the speaker. The hall echoed with the courageous voices of the school students as they recited an oath with the ex-President :

I will build the courage to think different, courage to reason, courage to travel into an unexplored land, courage to discover the impossible, courage to combat the problem and succeed with all the unique qualities. As a youth of my nation I will work with courage to achieve success and to make Assam a great state.

It was wonderful to listen to the words of such a great personality and it was lovely to see the warm reception his words received. Dr. Kalam will definitely be remembered for the simplicity in his greatness, the modesty in his attitude, the kindness in his words, the strength in his character, the vision in his thoughts, the magnetism in his personality and the beauty in his ideas.

I would like to end the article with a small but beautiful and inspiring poem from the scientist cum poet -

*Beautiful hands are those that do
Work that is earnest and brave and true
Moment by moment
The long day through*

Further reading :

1. Wings of Fire; Dr. A.P.J. Abdul Kalam and Arun Tiwari; Universities Press.
2. <http://www.abdulkalam.com/kalam/>
3. <http://www.abdulkalam.nic.in/>
4. <http://www.abdulkalam.nic.in/books.html>

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