Professor Atta-Ur-Rahman, *FRS*

A Tribute to a Living Legend

Dedicated to Professor Dr. Atta-ur-Rahman
on the Occasion of his 65th Birthday, 22nd September 2007

I first met Prof. Atta-ur-Rahman on the afternoon of September 13, 1983, in a small laboratory of the Husein Ebrahim Jamal Research Institute of Chemistry, (H.E.J. Institute) crowded with students and researchers. Soon after I discovered that this is the man with whom I want to associate myself for the rest of my life. I now look back to the last two decades and realize that it was the best decision I ever took. With a close personal and professional association for over two decades and over 400 joint research publications probably more than any two scientists of the world ever jointly published, I still feel overwhelmed by the all-encompassing dimensions of Prof. Atta-ur-Rahman's personality. However, I am not the only person who feels like this. He is a glimpse of hope to many more, who have been trying to change the fate of this nation of some one hundred and sixty million people, through bringing about an education, science and technology revolution.

In this tribute, I have tried to summarize some of probably the least known dimensions of Prof. Atta-ur-Rahman's personality, though I must admit it requires a dedicated volume. The objective is to introduce this great man through his own experiences of life, which must have played a crucial role in shaping his personality.

Atta-ur-Rahman, lovingly known "ATTY" by his family/friends, was born in Feroz Shah Road, a new part of Delhi, on September 22, 1942, Thursday morning. The only child of Mr. Jamil-ur-Rahman and Amtul Subhan Begum, his family was among the respected educated Muslim families with rich traditions of courtesy and generosity, characteristic of "Dilli Wala's" which

makes them different from many other Muslims of North India. His grandfather, late Sir Abdur Rahman, was the first Muslim Vice-Chancellor of Delhi University (1934-1938) and a Judge of Madras High Court. He later was approved Vice Chancellor of the Punjab University (1946) and after partition, became a Judge of the first bench of the Supreme Court of Pakistan. Prof. Atta-ur-Rahman's family migrated to their new home Pakistan on September 5, 1947; exactly 21 days after the creation of Pakistan, leaving everything behind and migrating to a country which they least knew, itself a traumatic experience. The family stayed a few days in Lahore and then shifted to what was then a village at that time, Okara, and which has now grown to be a small city in Punjab where his father late Mr. Jamil-ur-Rahman, a lawyer by profession, established a cotton ginning industry.

The unusual circumstances that the family went through did not allow for a formal education of Atta-ur-Rahman until very late. In the small town of Okara, there was no good school and Mr. Jamil-ur-Rahman hired Syed Tajammul Hussain, former principal of Hyderabad Deccan Public School, as a personal teacher who was given the responsibility of the early education of Atta-ur-Rahman.

In early 1952, when the family moved to Karachi, Atta was admitted to Karachi Grammar School, which was the best school in the country. Even after 15 years of independence, Karachi Grammar School was more like a British Convent school than anything else. Both in "O" and "A" levels he was graded top in entire Pakistan. He obtained distinctions in all subjects in his "O" levels except physics and chemistry. Motivated by a thirst to learn he decided to take up Physics and Chemistry as a challenge at "A" level. After completing "A" levels, he had several options. With such an excellent academic record he could have joined medical or engineering colleges to become a medical doctor or engineer, as was the general trend at that time. However despite all financial incentives to join these fields, he decided to join the university and learn basic science, chemistry.

Atta-ur-Rahman joined the Department of Chemistry, University of Karachi, in 1961. He was among the first batch of students admitted into the new campus of the University of Karachi. He joined the class after three months of its commencement along with other colleagues from Karachi Grammar School. He was a bright star in the entire University, active both in academic and co-curricular activities, and he was recognized by his peers to be an outstanding student with a great future ahead. After he had passed M.Sc. in Organic Chemistry with 1st division and 1st position, his father wanted him to join in his industry but Atta was interested in pursuing research and obtaining a Ph.D. at a good world class university. Mr. Jamil-ur-Rahman, after realizing the passion and determination of Atta to pursue education and research as a career, finally agreed and offered to Atta to pay off the expenses involved in the proceeding for a Ph.D. degree abroad. Atta was however determined to make his own way in life and not rely on funding from his parents. He therefore, decided to join the Karachi University as a lecturer with a salary of Rs. 375/- per month in September 1964. He taught for one year in the Department of Chemistry. During this period he applied for scholarships to a number of universities. Due to his outstanding career he was offered scholarships by the East-West Centre at the University of

Hawaii (USA), University of Saskatchewan (Canada) and a Commonwealth scholarship at the University of Cambridge (United Kingdom). He chose the Commonwealth Scholarship and moved to King's College Cambridge, on September 13, 1965, where Atta-ur-Rahman joined Prof. Harley-Mason's prestigious research group. He obtained Ph.D. in organic chemistry from Cambridge in 1968 with the thesis entitled "Synthetic studies in the Indole Alkaloids field". He then had the rare distinction of being elected as a Fellow of King's College, Cambridge University in 1969 in Cambridge, thus becoming the second Pakistani after late Prof. Abdus Salam to get this honor. Ian Fleming (Prof. Ian Fleming, *FRS*) and Alan Fersht (Prof. Alan Fersht, *FRS*) were Atta-ur-Rahman's close associates and companions during those days.

As a young Don, Dr. Atta carried out independent researches in Cambridge until September 1973, when he decided to return to Pakistan and join the Postgraduate Institute of Chemistry, later to be called the "Husein Ebrahim Jamal Research Institute of Chemistry" (H.E.J.). In September 1973, Dr. Atta-ur-Rahman permanently joined the post-graduate Institute. He fell prey to petty politics when the offer of Associate Professorship was withdrawn by Karachi University because of pressure on the Vice Chancellor by some teachers of Department of Chemistry. Undeterred Dr. Atta worked in an honorary capacity until mid 1974 when he was again formally appointed as Associate Professor. Dr. Atta had brought with him a precious consignment of several very advanced scientific equipments including a gas chromatographs, elemental analyzer etc. arranged largely through donations by Cambridge University. He soon won a grant from International Foundation of Science, Sweden and within a year of his return from Cambridge, he managed to procure NMR and mass spectrometers also. This has begun a new era in the scientific history of Pakistan.

During subsequent years, Prof. Atta-ur-Rahman played a pivotal role in the establishment of the Postgraduate institute which later became one of the finest research centers in natural product chemistry in the Afro-Asian world and one of the top centers in this field anywhere.

As a teacher he is equipped both with traditional and modern knowledge of chemistry and its relationship with the real life. He generates so many genuinely innovative ideas and stimulates his students to conduct original research. He constantly encourages all his students and junior colleagues to keep abreast with recent developments in the subject by reading scientific journals and monographs. He wants his students to use modern tools of research and regularly attend scientific lectures. The most cherished moments of his life are the one which he spends with his students and co-workers.

Prof. Atta-ur-Rahman is not an ordinary person. His personal attributes are numerous and inspire both his peers and followers. One of the most important attributes of his personality is his perseverance and steadfastness. Even in the darkest hours of life he never loses hope. He is a believer and an optimist by nature, and a well-organized and hardworking person by training. These qualities make him a man who always wins, quite often by turning failures into successes. However, he struggles and achieves not for himself but for others and for his nation.

Prof. Atta-ur-Rahman has, throughout his life, worked exceptionally hard, with total dedication to the cause of science and education and its use for the good of humanity. He tries to

utilize every moment of his life to the best advantage, filling up empty pockets of time with a multitude of important tasks. He works when others cannot even imagine that they could. He draws deep satisfaction in work and relaxation on achieving the targets. I will never forget seeing him working in front of an operation theatre in Agha Khan Hospital where his father was going through a complex brain surgery after a stroke. An unprecedented commitment to work!

Prof. Atta-ur-Rahman is thus rather unique in that his devotion to science, education and research has never wavered. Despite agonizing provocation by certain individuals, he never responded to negative acts negatively. He believes in a positive attitude and in addressing the core issues rather than getting lost in trivialities. He helps and supports even his most unreasonable and outspoken critics. His life has been truly an inspiration for all in Pakistan and throughout the world, to all who want to serve their respective nations and to all who are waging a war against the illiteracy. His life symbolizes the endless struggle for excellence in every sphere of life, not for himself but for others and for Pakistan.

Prof. Atta-ur-Rahman is a kind, pleasant, modest, honest, affectionate, and cheerful person. The best of many superior human qualities have come together in his wonderful and attractive personality.

Prof. Atta-ur-Rahman's scientific contributions are internationally recognized, and widely appreciated. He is one of the most prominent natural product chemists of the 20th century. His work is characterized by its originality and depth. His contributions in the field of natural product chemistry and NMR spectroscopy have expanded the boundaries of these sciences and played a crucial role in attracting young talents. He has been actively involved in the development of new medicinal agents, isolation and structure elucidation and synthesis of several hundred natural products. With over 600 research publications in top international science journals and 93 books published and circulated internationally by leading world publishers, Prof. Atta-ur-Rahman is well known in his field for his prolific and excellent research publications. Some 70 scholars have completed their Ph.D. studies under his dynamic supervision.

He is the first resident Pakistani scientist to be honored by the Cambridge University with a Sc.D. degree in October 1987. More recently he was elected as the Fellow of Royal Society, the fourth person of Pakistani origin in last 60 years of our history to receive this unique honor and the first scientist from the Muslim World to have been thus honored in recognition of work carried out within an Islamic country. He is also the first scientist from the Muslim World to have won the UNESCO Science prize. He has served as the President of the Chemical Society of Pakistan. He was the President of the Pakistan Academy of Sciences for two successive terms and has also been the President of Network of Academies of Sciences in Islamic Countries (NASIC). The government of Pakistan has conferred four Civil Awards on him; Tamgha-i-Imtiaz, Sitara-i-Imtiaz, Hilal-i-Imtiaz and the highest national Civil Award Nishan-i-Imtiaz but what he cherishes most is the Fellowship of the Royal Society (London).

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33 Most significant research articles

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