

# A Meeting with Dr Abdul Quadeer Khan — the Architect of Nuclear Pakistan

I have just returned from a three-week visit to Pakistan. They say it is not good to go back to a place of old memories. On this occasion at least this was proved wrong. It was wonderful going back to a land where I had spent, when we were a part of Pakistan, some of the formative years of my service career, to meet with old friends, to interact with them with frankness and candour and to enjoy their warm and generous hospitality. Neither time nor varying experiences had, one pleasantly discovered, eroded many a friendship forged when young. It was, at the same time particularly interesting making acquaintances with Pakistanis of the younger generation with whom one did not have memories, sweet and sour, of a shared nationhood, as one had with their elders.

Talking to Pakistanis about their matters of concern, be it political, economic, social, religious, ethnic, linguistic and the like, one often encounters perceptions, more parochial than national. Yet, this impression can be deceptive, for it does not need a great deal to put them on the nationalistic track. A sixer by Wasim Akram, in a game of cricket, is good enough to be the cause of boisterous jubilation across the nation, just as any threat perception from across the border, however remote, cuts across the divides. Besides, it is important for a nation to have heroes and Pakistan has them. Pakistanis of different persuasions, with very few exceptions, regard Allama Iqbal as the dreamer of Pakistan and Mohammad Ali Jinnah as the Father of the Nation. To that common list of two, a third name has lately been added, for how long, only time can tell. It is that of Dr Abdul Quadeer Khan, the architect of nuclear Pakistan.

On the afternoon of April 8, 1999, as my car cruised along the well laid out fifteen kilometres or so of the motorway that separates Islamabad from Rawalpindi, taking me to my meeting with Dr Abdul Quadeer Khan, what questions I wondered could I possibly ask him. Age and experience rob thrills out of life's occurrences for as life advances, one develops an attitude of 'déjà vu'. Meeting Dr Khan, I dare say, was an exception to that. In preparation for the meeting I had tried to read up a couple of write ups meant for laymen, on the centrifuge system of enrichment of uranium, and the precious little I was able to discern was that the Pakistani system of enriching the metal was different and more modern than the one used by the Indians. This knowledge was hardly adequate to engage Dr Khan in a discussion on the making of a nuclear bomb. Nor would it be appropriate, one

felt, to draw a scientist into a discussion on the ethical aspects of possessing nuclear weapons. After all Dr Khan had only accomplished a mission assigned to him and he had only performed his duties to his country by giving it his very best. Why not then, I wondered, I try to find out something, within the limited time at my disposal, about the man behind the Pakistani bomb.

Major Islam, Private Secretary to Dr Abdul Quadeer Khan, received me on my arrival at the Dr A Q Khan Research Laboratory head office in Rawalpindi. One may mention here that Pakistan's nuclear research organisation, the Engineering Research Laboratories, was set up in 1976 at the initiative of Zulfikar Ali Bhutto, who had appointed Dr Khan as its Head. Subsequently, General Zia as the President of Pakistan, changed the name of the Laboratory to Dr A Q Khan Research Laboratory in recognition of the scientist's services to the nation. It was Major Islam, who after a wait of fifteen minutes or so ushered me into Dr Khan's wood panelled office room. Dr Khan who was sitting at a large and tidy table, promptly got up, came around the table and greeted me with a warm handshake. He is well over six feet tall, with graying wavy hair neatly back brushed, well trimmed moustache and was wearing a sartorially elegant blue Safari suit. He had the look of a retired, handsome Chief Executive of a successful commercial firm and the only concession he seemed to have made to the popular perception of a scientist was to have a fountain pen in the left pocket of his safari jacket.

Standing next to him it was difficult to imagine that less than a year ago, this man had engineered the explosion of nuclear devices, each one of which was eighty times more powerful than the Hiroshima bombs. It was frightening to ponder that in a nuclear free for all between India and Pakistan one of these bombs could kill nine million people living within a radius of seven square kilometres of Delhi's city centre and that if an Indian "Agni" missile with nuclear warhead appeared over the sky of Rawalpindi-Islamabad, it could obliterate all forms of life beneath it, in a jiffy. In a supreme irony of history, in a nuclear confrontation, India and Pakistan could destroy vestiges of their thousands of years of a shared past. A couple of "Agni" missiles of India, with nuclear war-heads could, for instance, wipe off historic Taxila, a city, as the legend has it, founded by Takshaka, a nephew of Lord Rama and possessing priceless relics of the days of Chandragupta, Vimisara, Ashok and Kanishka; in short, a city which, in its ruins

bears testimony to the civilisation that was ancient India. Similarly, a couple of Pakistani "Ghouri" missiles could destroy in seconds, much of the examples of Muslim India's glorious past adorning Delhi and Agra of Ibrahim Lodhi, Nizamuddin Awlia, Akbar, Shahjahan and Ghulab.

"This is not likely to happen," said Dr Khan reassuringly. "The nuclear balance in the Sub-continent ensures that. They have maintained nuclear peace in the West for the last half a century," he pointed out. One hoped, Dr Abdul Kalam, the Indian nuclear scientist would agree with him! After all ordinary mortals inhabiting today's subcontinent do not have much more than the assurance of eminent men of science and the sanity of political leaders, between them and a nuclear holocaust!

But before we came to all this Dr Abdul Quadeer Khan, replying to my questions, talked about his childhood and early days. A soft-spoken person, Dr Khan is a lucid and absorbing talker and one left instantly at ease with him. He was born in the Indian State of Bhopal in 1936, the youngest of the five brothers. He also has two sisters, one of whom is younger than him. His father, who was a school teacher, retired in 1935, ie, a year before his birth, and that gave the young Abdul Quadeer Khan the opportunity of his father's close proximity, as he grew up.

We commenced our conversation sitting across the office table and subsequently moved over to the sofa as cold drink and tea were served. Dr Abdul Quadeer Khan's office room walls have a number of photographs including one of Jinnah, Nawaz Sharif, the current prime minister also occupies a place of honour. But the fact that none of his predecessors is represented on the walls suggested that his presence in the picture gallery was perhaps to meet the demands of protocol and might well be co-terminus with his prime ministership! The back wall of Abdul Quadeer Khan's office displays a verse from the Holy Quran and two calligraphic portrayals of "ya Allah" and "ya Muhammad". There are also photographs of Abdul Quadeer Khan with prominent visiting dignitaries and of course of the Chaghai nuclear explosion. There are also photographs of the successful launching of the Ghouri-1 missile. (My meeting took place a few days prior to the launching of Ghouri-2). The high tea served was sumptuous and

lie the historic town of Taxila. He even has a parrot that talks, not of course giving out any nuclear secrets!

Zulekha Begum, Dr Khan's mother, was a pious lady with a good knowledge of Persian and Urdu. She said her prayers, five times a day — a practice Dr Khan, himself a deeply religious person, strictly follows.

Dr A Q Khan matriculated from Bhopal's Hamidia High School in 1952. Both Allama Iqbal and Mohammad Ali Jinnah, had profound influence over the students of that school.

Young Abdul Quadeer Khan was no exception to that. Soon after he matriculated he responded to his elder brothers' call to migrate to Pakistan. Why did he leave India, I asked. He said that he found his future prospects in Bhopal somewhat limited. Had he stayed on there, he would have perhaps ended up, like his father, as a school teacher, leading an uneventful life, he added. He was an average student and his parents, who wanted him to grow up as a normal child, did not have any high expectations of his examination results. As a result his academic life in school and

college was free of tension. His father, who never migrated to Pakistan, passed away in Bhopal in 1957.

He graduated in science from the Karachi University with a second class, in 1960 and applied for the job of an Inspector of Weights and Measures, a second class non-gazetted government job. Abdul Quadeer Khan was one of the two persons selected for the job out of about two hundred candidates, and his monthly salary was the princely sum of two hundred rupees a month. I could not help pointing out to him that in the fifties and the sixties, sitting for the Superior Services examination was much in vogue among those who wished to work for the government and wondered as to why he had not done so. The idea never occurred to him, said Dr Khan. In fact he would have been quite content to continue in that job, had it not been for his immediate superior, Inspector Musa Khan. While issuing certificates to

accident while on a visit to the Hague. They met at the Hague post office where Dr Khan had gone to find out the cost of postage stamps to Pakistan. The person at the counter did not have the information readily available whereas Henny standing nearby found out the valuable information from a note book she possessed and obliged. While thanking her and taking leave, Dr Khan did not fail to note down her address and telephone number and that was the beginning of the story that ultimately brought him to Holland. They got married at the Pakistan Embassy in Holland in the early sixties. I was posted to the Pakistan Embassy in Holland in 1965 and it so happened that it was my immediate predecessor in the Embassy, who as the consular officer, married them off. This must be the closest I ever came to glory as a consular officer! I mentioned this narrow miss to Dr Khan and we happened to have, as it turned out, memories of some common people and events in Holland of the mid sixties.

Dr Khan had wished many times to return to Pakistan after his studies abroad. In fact, in 1967 after obtaining his masters degree, he applied for a job with the Karachi Steel Mills. It was turned down on the grounds that he did not possess any practical experience. That made him do his doctorate in Belgium. Upon obtaining his doctorate he applied for jobs both in Pakistan and abroad. Alas! There was no response from anyone in Pakistan. He received a few offers from abroad out of which a job with the Australian Atomic Energy Commission appealed to him. But just as he and his wife were getting ready for it, an offer came from FDO Engineering in Holland for the post of a Senior Metallurgist. That was perhaps the luckiest thing that could happen to Pakistan's yet to be born nuclear programme. The FDO Engineering Company was closely associated with URE-NO, the biggest European research organisation, jointly sponsored by the USA, Germany and Holland. The organisation was then carrying on research on the enrichment of uranium through the centrifuge system. The research programme encountered a number of ticklish problems concerning metal behaviour and as an able and hard working metallurgist Dr Khan was able to solve them. That gave him a good idea about the working of the centrifuge system — something that stood him in very good stead in conducting Pakistan's nuclear programme.

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clients from the Inspectorate, the Chief Inspector, according to Dr Khan, would demand to be invited to meals. Dr Khan as a junior member of the team found this gastronomical desire of his superior distasteful and unethical. He did not wish to be associated with such a practice and decided to quit. It did occur to me while listening to Dr Khan that a less gastronomically inclined Chief Inspector of Weights and Measures could indeed have deprived Pakistan of the bomb!

Dr Khan then decided to go abroad for higher studies and applied for admission to a number of European Universities. The place he chose was the Berlin Technical University, for a two-year undergraduate training course in metallurgy. He took his MSc degree in 1967 from the Delft Technological University in Holland and his doctorate from the Louvain University in 1972.

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Dr Khan was in Belgium dur-

ing our liberation war in 1971. There the news media carried reports about the atrocities committed by 'Tikka Khan' and his Army. India was also very active then in publicising the events, said Dr Khan. What he saw on the television of the surrender of the Pakistani soldiers pained him greatly. Dr and Mrs Khan were then sharing a building with Dr and Mrs Abdul Majid Molla, both of whom were medical doctors from Bangladesh. They were good friends but their reaction to the events of 1971 were very different. Whereas the Molas were very happy at the emergence of Bangladesh, the Khans were pained to see the break up of Pakistan. But then this did not in any manner affect their friendship, Dr Khan said.

With regard to his work in Kahuta one can do no better than to quote Dr A Q Khan from an article he wrote in 1986 after Pakistan had succeeded in enriching uranium to the critical level. He wrote, "Notwithstanding the fact that we were handicapped by not being able to hold open discussions with foreign experts or organisations, we attacked all the problems successfully. Our scientists and engineers not only designed and ran good centrifuges but designed the cascades, worked out the header piping system, calculated the pressures, developed the control philosophy and developed software and hardware for it. It was a hundred per cent Pakistani effort and success story."

In answer to my question Dr Khan said that the Chaghai nuclear blast would never have taken place but for the Indian explosion in Pokhran. He also thought that the BJP government did it only to earn popularity among the Indian public. I commented on the huge expenditure that both the countries would have to bear in a nuclear race. Dr Khan said that Pakistan need not be in a race after having acquired the capability of hitting any corner of India. India may have other targets besides Pakistan. It is their problem. Our target is only India," said he chillingly. But he hastened to repeat reassuringly that with a nuclear balance one can rule out the possibility of a nuclear war between India and Pakistan. They first met there in December 1974. Subsequently Bhutto had Dr Khan's credentials checked by the Pakistan Embassy in Holland, and in 1975, when Dr Khan met him again in Islamabad, Bhutto requested him not to return to Holland and to immediately take charge of Pakistan's nuclear programme. The same evening Dr Khan told his wife of the offer. This of course meant his wife's leaving Holland for good. But Henny had only one question for her husband. "Do you think that you can achieve something for your country?" When Dr Khan nodded affirmatively, she said, "You stay back then. Let me go back to Holland and wind up." That is what happened and the Khans stayed back in Pakistan.

What followed then has been a story of determination, endeavour and success. Inspite of the uncertainties of Pakistan's politics, successive heads of government i.e. Bhutto, Ziaul Huq, Ghulam Ishaq Khan, and Benazir Bhutto and Nawaz Sharif, each twice over, lent their total support to the programme. Dr Khan said that coming to work in Pakistan, he soon realised that it would be impossible to achieve any success through the Pakistan Atomic Energy Commission for it was nothing but a file pushing den of bureaucrats. He proposed to Bhutto that under a separate organisation set up for the purpose he be given complete freedom of action. In a day's time Bhutto agreed to his proposal and the Eastern Research Laboratory was set up in Kahuta, near Rawalpindi, in 1976, to carry on Pakistan's nuclear programme. Later on, as earlier stated, President Zia renamed it

"Do you have any message for the new generation of Bangladeshis", was my last question. "Yes," he said. "They should concentrate on science and technology, because the progress of a country is basically dependent on those". He further said that he would like to request the Bangladesh government to attach the utmost importance to the development of scientific and technological education and to be generous in spending money on it. While taking leave of Dr Khan, I did not wish to express to him my apprehension that his valuable advice was very likely to fall into deaf ears!

## Letter From America

### Where is Muslim Anger?

Dr. Fakhruddin Ahmed writes from Princeton

Milosevic's words fueled Serb nationalism which in turn led to Serb fanaticism, and look what it has done! The fanatics must be confronted and defeated on the battle field — Islam does not believe in turning the other cheek; it only emboldens the criminal.

THE world was not aware of the holocaust of the Jews until after the end of the Second World War. Then it was too late to react and save the Jews from the clutches of the murderous Nazis. Thanks to television pictures beamed to every living room, the world could not profess ignorance of the holocaust of the Muslims in Bosnia (1992-95), and now in Kosovo. Yet what have they done?

The pictures of emaciated ethnic Albanian Muslim mothers in ragtag clothes hugging their babies, and trudging hundreds of miles into Albanian territory, just ahead of sure rape and death at the hands of Serb soldiers, did evoke revulsion at American dinner tables. Americans could not eat their dinner, initially. But after repeated doses of the same atrocities, Americans ate their dinner even as they watched the television pictures of the unspeakable brutality of the Serbs. As Serbian atrocities became common place, it had a numbing effect on the senses.

What if the roles were reversed. What if the Serbs were Muslims and the ethnic Albanians were Christians? If the "Muslim Serbs" were ethnically cleansing the "Christian Albanians," burning their houses, destroying their property deeds, shipping them out of their homeland on board trains or on foot, raping their women and tossing their murdered bodies into mass graves, how would the West have reacted? I will tell you how they would have reacted. There would have been an irresistible clamour for dropping nuclear bombs on "Muslim Serbia".

Are the Serbs burning Kosovar Albanian houses, uprooting the entire ethnic Albanian population of Kosovo for something

serious cooperation between Muslims and Christians.

While we are in the reconciliation mode, it will be helpful if the United States, too, acknowledges some of its past mistakes. Instead of continually demonizing Iran, the US should own up to the wrongs it committed against Iran — the CIA-overthrow of the elected government of Iran in 1953, US's unconditional support for the brutal regime of the Shah, and the freezing of Iranian assets in the US. Only then are good relations possible.

Individual Jews in America and Israel have come out solidly in support of Kosovo Albanians. Unfortunately, not the leadership in Israel or its amen corner in America. The New York Times columnist A. M. Rosenthal likes to talk only about the suffering of the Serbs! And former mayor of New York, Ed Koch, blames the Kosovar Liberation Army and Iran equally for the plight of the Kosovars! Netanyah, Sharon, Rosenthal and Koch all want Kosovo to remain a part of Serbia. In a way such Jewish sympathy for the Serbs is understandable. After all, like Serbs, Israel too forcibly occupies someone else's land — the West Bank and East Jerusalem, including Islam's third holiest shrine Al Aqsa — which are 100 per cent Muslim. Would the Jewish apologists for Serbia have recommended that the Jews of Europe settle with the Nazis and continue to live under Nazi domination?

War brings out the best and the worst in people. NATO may have its own reason for confronting the devil that is Milosevic. Nevertheless, it is spending billions of dollars and putting the life of its pilots on the line for the stated reason of saving Kosovar Muslims. Depending on how the crisis ends, this could be the beginning of

God's ears, no one else does. He believes that he is the chosen one, empowered to trample everyone else's rights.

The truly religious knows that we are not God; we only know in part and we may be wrong. That is why in Islam there is so much emphasis on humility. When someone purports to act in the name of religion, in reality he acts in the name of power. The religious must speak up when their faith is misrepresented. Faith imposes that duty on the religious. Yet, the faithful are almost always reluctant. The faithful believe that by criticizing the fanatics, they may somehow be undercutting their faith. Not at all. Muslims must not be afraid to speak up against the fanatics they are committing against women in the name of Islam in Afghanistan. Faith demands it! There is one simple way to tell a fanatic from a non-fanatic. The fanatic is so self-righteous that he does not have a sense of humour!

Human catastrophes always start with simple spoken words. Milosevic uttered those devilish words in Kosovo in 1987, and quickly his words turned into actions. Milosevic's words fueled Serb nationalism which in turn led to Serb fanaticism, and look what it has done! The fanatics must be confronted and defeated on the battle field — Islam does not believe in turning the other cheek; it only emboldens the criminal.

Patriotism and nationalism are all right up to a point. Unchecked, they breed fanaticism. Political fanaticism promotes the rights of one group at the cost of all others. Religious fanaticism makes prisoners of all of us. The fanatic believes that only he has

the right to believe in God's ears, no one else does. He believes that he is the chosen one, empowered to trample everyone else's rights.

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