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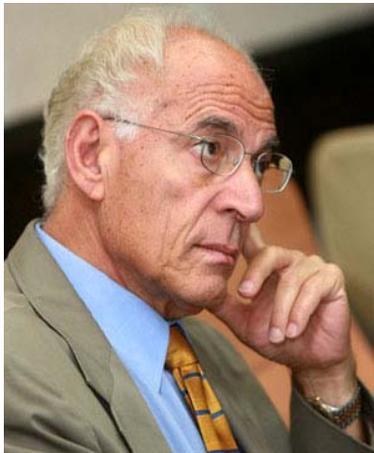
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Education

The Genes of Ibn Sina are Still Alive

Arab governments need to insert into the education system the value of knowledge for the sake of knowledge



By Raju Nagarajan

Science and Technology has not been a distinguishing feature of recent Arab history, although a thousand years ago Arab mathematicians, engineers and alchemists were in the forefront of scientific research. The 20th Century saw Arab countries lagging behind even as America, Europe and Asia surged ahead on the back of investments in science education in schools and colleges. Some of the best Arab brains migrated West seeking better opportunities. The most distinguished among them is Dr Farouk El-Baz, who left his native Egypt in the sixties to attain fame through his work on NASA's Apollo moon programme. A firm critic of Arab indifference towards scientific enquiry and culture, Dr

El-Baz, currently Director of the Center for Remote Sensing, Boston University, and senior scientific advisor to Techno Park, Dubai, believes that the genius of the Arab mind is still alive and that the time has arrived for its revival. In an exclusive interview to The World during a recent visit to Dubai, he said governments must act fast to make up for the precious time already lost. Excerpts:

On the weaknesses of Arab science culture: During the past 50 years there's been a general feeling among Arab leaders that scientific research is a luxury that only rich countries could afford. We'd other priorities like giving people their bread, building schools, hospitals and other pressing problems. Arab countries in general are way behind all other regions, except perhaps sub-Saharan Africa, in generating knowledge. It's a very dangerous thing and it has continued for too long. That's the disaster we have today. Scientific research doesn't get enough priority. There are some good cases here and there, but across the board the generation of knowledge is near zero in the Arab world. We don't produce anything new, we don't generate new ideas, we don't introduce new products, we don't put forward new theories. Our research centres are not doing what research centres are supposed to do. The exceptions are miniscule compared to the total population and potential of the Arab world.

On the strengths: The Arab mind, the native intelligence. Arabs in general are people of very high IQ. In the middle of the Arabian peninsula, the Empty Quarter, we meet people who've never been to school. But I found their native intelligence a 100 times that of somebody I meet in the West. When they're motivated Arabs can do wonders. But they have not been allowed to. We do not spend as much money on scientific research to develop this native intelligence and gain from the intellectual prowess that exists.

Advice to governments: Insert into the education system the value of knowledge for the sake of knowledge. A knowledgeable person is a highly respected person, a useful person to society. That's the Number 1 priority. This results in acquiring the incredible energy needed for scientific research. Many of these countries need to double, triple and multiply by ten the amount of money they spend on scientific research. I see this happening now here and there. I see it beginning in all the private schools across the Arab world, in countries like Qatar and Egypt. But there's still a long way to go.



On the current state of science & technology in the region: I'm beginning to see some wonderful things, like colleges and technology centres with potential to mushroom into scientific centres. Initiatives like Techno Park here in Dubai. Within Dubai World group there are all kinds of wonderful initiatives, moving in the right direction. Yes, I do think they make money through their businesses, but they also take some of that money and put it into developing better things and to generate new ideas. Techno Park is one of those seeds that's going to grow into something tangible. It's taken the lead in research and development in desalination. Water is our top priority in this region. Because of our interest in desalination, the rest of the world has noticed Dubai. The International Desalination Association is partnering

Techno Park to host the 2009 IDA World Congress in November in Dubai. These are huge benefits.

On reversing the Arab brain drain: You can't get them back until you establish adequate science centres and give them the facilities they enjoy abroad. India did it quite successfully (*see story below*) and within a relatively short span of time. So can Arabs. India is the one country that has shown the world how you can take a technology and develop it to do something for you. During that time people were dying of hunger in India, but economic problems were no excuse for inaction. Look where India is today. The Indian scientific community has grown in all directions, from IT to space and other fields, all around the world.

On knowledge-based society: There's one fundamental requirement for knowledge-based societies: People must show enough respect for knowledge. This was there everywhere in the Arab world in my days in school and college. I remember that when a teacher passed by as we boys stood around in a street, even if he was on the other side of the road, we'd stop talking. We'd hide our cigarettes and wait until the teacher moved away, out of respect for the man we saw as the source of knowledge. That has disappeared in the Arab world. People must learn to see, feel and respect knowledge for its own sake, not because it'd give them better jobs.

So, the genes of Ibn Sina are still alive and kicking ... They are all there and they are everywhere. All we need to do is to whip them up, get our children back to reading books, get them back to learning for the sake of learning not for just making money. This is happening here in Dubai, in Tunisia, in Qatar, and in Egypt. There are a whole lot of activities in Saudi Arabia. There is enough interest and backing from governments to do it. In some ways, Dubai is the showcase. All these developments we see around us here, I don't value them for what they are, but for what they mean. It's shown to the world that we Arabs can do it. With vision, imagination and sincerity Dubai has shown that it can be done in the Arab world. That's all.

The Indian Experiment

The rise of India as a centre for science and technology in recent years may have astonished many, but not Dr Farouk El-Baz. During his conversation with *The World*, he recalled an incident that eventually led to the flowering of the country's S&T revolution:

It was 1974. Dr El-Baz was with the Smithsonian Institution in Washington DC, when one day MGK Menon, at the time India's top scientific advisor and policy maker, called him. India was planning to expand its nascent space research project and the visitor wanted to learn how to go about doing it from the Egyptian scientist, whose achievements with the US lunar programme



were well-known by then.

Menon requested four hours of time and came with two stenographers, who sat behind Dr El-Baz taking notes. After the science, Menon asked Dr El-Baz to list the top Indian scientists he'd known in the US, and also to name the one best suited to lead the project. "Professor Yashpal," said the Egyptian scientist without hesitation.

Menon met Yashpal, who gave him a long list of demands, and left, promising to call back in six months. Dr El-Baz recalls a sceptical Yashpal saying he was confident the Indian government would never meet them and dismissed it as a joke. But just 3 months later, Yashpal received an invitation from the Indian government to visit and check for himself if his wish-list was fulfilled. Within eight months Yashpal left the US for home to head the project. One of his requirements was a Red Phone, connected directly to the prime minister's office, just in case some pesky bureaucrat interfered with his work.

"They gave him one. I saw it in his office in Ahmedabad," said Dr El-Baz.

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