

I just returned from Tehran a few days ago. During my short stay here, I could see a very vibrant population of young and old people who tolerate a regime that is taking the country deeper into trouble--economically, socially and politically! The Iranian Rial which was 8 to a Dollar (in 1979, about the same value as a Rupee at that time) is now 9,000 to a Dollar. The banks are profitable, because they lend at 28% interest. Every one of the younger generation that I met is looking for an opportunity to escape to an environment where their creativity can be put to better use. I could see the palace of the deposed Shah Mohammed Reza, which is now a museum. The person who took us around and explained to us his recollection of history was spontaneously referring to the Shah and the queen as "*Our King*" and "*Our Queen*"! There was certainly grandeur in the palace, but nothing unusually extraordinary when compared to several that I have seen--including the pictures of a the palaces occupied by Saddam Hussein (again the leader of the party that deposed a monarchy). I was reminded of several things, particularly George Orwell's Animal Farm. There were the "more equal" ones in control and would never want to give up power, and setting the rules of the game as they went along. What really worried me is that this extremely capable, friendly and loving people in Iran will one-day face some turbulence and discomfort before true democracy is restored--as we have seen in several other places.

This whole experience made me once again be thankful to God for the freedom and the political system that we enjoy in India, which we know is far from perfect but certainly something unimaginable for the bulk of the world. For those who are critical of what we do not have, the only thing I have to say is that if we ever see an incompetent regime, their end is always in sight within a period that does not exceed five years! We have experienced this several times at the national and state levels. I learnt a new prayer, in Iran, that is worth saying "Oh God, give me the ability to change the world and make it a better place and the strength to tolerate what I cannot change!"

I was also reminded of how we too in India came so close to loosing this during the time of the so called "Emergency" and how God in his wisdom decided to spare the Indians of the same plight. I often hear many of my friends praising the actions of political extremists that have the support of religious groups and communists who use the democratic system to seize authority. I wonder if any of them can see far enough to know that these group that try to take power will certainly hold onto it and change the rules of the game, only to cling to power! The question that always comes up is "how do people recognize this early enough?" It might be easier for those of us who saw the days of the emergency (there were those who even applauded to see some sense of order come in)! In general, ***it is when you see the ones in authority try and remove the normal checks-and-balances in the political system.*** We recently saw in Lebanon the rules being changed to give the President in power, a third term. Is it possible that in a country of several million very talented people there is nobody else to lead the other than this one "God sent" person? Wonder what kind of political crisis it would create if he died all of a sudden?

Having said all this, I had gone with a view of Iran that was highly influenced by the western press and what I would call the "Bushian" view and warnings from several well wishers of the "danger" in being there. However, seeing is believing! The Iranian people are a peace loving lot, who were not fortunate in some respects. If they stand up to their rights to do what they please, it is in a way a kind of "bravery" that needs admiration. No different from India refusing to sign the NNPT. The sanctions are hurting them a lot, but they are a very resilient lot--having seen a revolution, a war for a decade and little hope of political salvation! When sanctions were imposed on India, it hardly had any effect on

us. When we refused to sign the NNPT, there was a lot of noise, but it had little effect. I guess, it helps to be have one-sixth of the world on your side☺! Interestingly, Coke was being bottled and sold in Iran (see photo) under collaboration by an Iranian Government owned company and it did not appear to worry the governments of US or Iran, as it was a source of revenue to both!

One other thing that struck me was the large number of Iranian youngsters who looked towards India as a destination for college and graduate education. I know that India already has a large Iranian student population. These are from the more affluent families, who find it affordable. However, what may surprise many people is that Iran has a number of needy but intelligent and deserving youngsters who look to India as being more affordable than some of the other places, but still find it impossible to generate the kind of money it takes to pay for the travel and fees. A few months ago, when I met the Dean of a major charitable educational institution, I asked him why they did not consider extending affordable (or free) education to people from other countries. The answer to be expected was obvious. I however, pointed out to him that if we see education as something beyond the knowledge contained in text books, this might bring about value for the Indian students as they would gain from the interaction with foreign students. I wish some of the Indian educational charities would recognize this and see value in extending their services to such students too-if not for anything else, but to enhance the levels of their own institutions. I am sure Harvard and MIT would not have been what they are, if they only admitted or provided scholarships to US nationals!

While all this was going through my mind, I hit upon this interesting note (see below) about Neil Bhor, that I received from a friend some months ago and had sent to a few people at that time (those who have seen this before--my apologies in advance). I am not for circulating "stuff" and clogging up the Internet, but this one is very interesting and should serve as a lesson for those who miss identifying the bright ones, early in life! I am not sure if it is true, but it certainly is fun! It also made me wonder how many Neil Bhors would be lost to the world in those places where there isn't enough freedom to think. Enjoy reading it and have a good laugh!

If you want to view the pictures of Tehran, you can download (or view) from <ftp.sivanand.com>. The userid is "tehran" and password "tehran2005". You can use a browser (IE or firefox) and enter this address on the userid and password when prompted.

With kind regards, Sunil Sivanand

The Neil Bhor Story

Sir Ernest Rutherford, President of the Royal Academy, and recipient of the Nobel Prize in Physics, related the following story:

Some time ago I received a call from a colleague. He was about to give a student a zero for his answer to a physics question, while the student claimed a perfect score. The instructor and the student agreed to an impartial arbiter, and I was selected. I read the examination question: "Show how it is possible to determine the height of a tall building with the aid of a barometer." The student had answered: "Take the barometer to the top of the building, attach a long rope to it, lower it to the street, and then bring it up, measuring the length of the rope. The length of the rope is the height of the building."

The student really had a strong case for full credit since he had really answered the question completely and correctly! On the other hand, if full credit were given, it could

well contribute to a high grade in his physics course and certify competence in physics, but the answer did not confirm this. I suggested that the student have another try. I gave the student six minutes to answer the question with the warning that the answer should show some knowledge of physics. At the end of five minutes, he hadn't written anything. I asked if he wished to give up, but he said he had many answers to this problem; he was just thinking of the best one. I excused myself for interrupting him and asked him to please go on. In the next minute, he dashed off his answer, which read.

Take the barometer to the top of the building and lean over the edge of the roof. Drop the barometer, timing its fall with a stopwatch. Then, using the formula $x=0.5*a*t^2$, calculate the height of the building. "At this point, I asked my colleague if he would give up. He conceded, and gave the student almost full credit. While leaving my colleague's office, I recalled that the student had said that he had other answers to the problem, so I asked him what they were. "Well," said the student, "there are many ways of getting the height of a tall building with the aid of a barometer. For example, you could take the barometer out on a sunny day and measure the height of the barometer, the length of its shadow, and the length of the shadow of the building, and by the use of simple proportion, determine the height of the building. "Fine," I said, "and others?" "Yes," said the student, "there is a very basic measurement method you will like. In this method, you take the barometer and begin to walk up the stairs. As you climb the stairs, you mark off the length of the barometer along the wall. You then count the number of marks, and this will give you the height of the building in barometer units. A very direct method."

"Of course. If you want a more sophisticated method, you can tie the barometer to the end of a string, swing it as a pendulum, and determine the value of g [gravity] at the street level and at the top of the building. From the difference between the two values of g , the height of the building, in principle, can be calculated. "On this same tack, you could take the barometer to the top of the building, attach a long rope to it, lower it to just above the street, and then swing it as a pendulum. You could then calculate the height of the building by the period of the precession".

"Finally," he concluded, "there are many other ways of solving the problem. Probably the best," he said, "is to take the barometer to the basement and knock on the superintendent's door. When the superintendent answers, you speak to him as follows: 'Mr. Superintendent, here is a fine barometer. If you will tell me the height of the building, I will give you this barometer.'"

At this point, I asked the student if he really did not know the conventional answer to this question. He admitted that he did, but said that he was fed up with high school and college instructors trying to teach him how to think.

Who was that student?

The student was Neil Bohr (1885-1962), Danish Physicist, Nobel-Prize winner in 1922, best known for proposing the first 'model' of the atom with protons & neutrons, and various energy states of the surrounding electrons--the familiar icon of the small nucleus circled by three elliptical orbits ... but more significantly, an innovator in Quantum Theory.

Can we give our children the freedom to think?