

Remarks at the opening of the TWAS General Conference
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Distinguished Authorities, Ladies and Gentlemen:

I greatly appreciate this opportunity to make a few remarks at the 25th Anniversary of TWAS.

When TWAS was founded twenty five years ago, the intent was to create a network of accomplished, but somewhat isolated, scientists from what used to be called the Third World then, so the members of this network could derive enough clout through each other's support, in order to be effective advocates, and nuclei for capacity building in science and technology in their own countries. This, it was thought, was one possible answer to the lacunae in scientific and economic development.

I have been a part of TWAS for nearly half of its life. In my capacity as the Director of ICTP for the last six or so years, I have seen the work of TWAS from close quarters and wish to make three points from that perspective.

My first point is this: Even in the last six years, TWAS has grown in size and the diversity of its programs; it has propelled itself on to the world scene primarily through its own remarkable efforts. It has skillfully adopted many created first at ICTP, elected new members with professionalism, supported the young and not-so-young through fellowships and prizes, organized wonderful meetings year after year, built up strong ties with academies and other such institutions in industrialized countries, and so forth. This is extraordinary accomplishment, and I wish to congratulate TWAS for this wonderful success.

On a celebratory occasion like this, the tendency is to be self-congratulatory and to feel good about the past. This we certainly should. However, I wish to say a few words on what I regard are the challenges that TWAS will, or should, face. Without this, we may easily degenerate into an empty box. I make the following two remarks with humility and with the awareness that I am addressing many distinguished individuals who have also known TWAS, and worked for it, for a lot longer than I.

In the last ten years or so, the developing world has changed a lot: some countries have progressed tremendously; the scientific productivity of some of them has increased prodigiously (for instance, China has been mentioned as being second only to the US in the number of scientific publications); the number of institutions devoted to scientific research has proliferated as well. Alas, other countries have stagnated or reversed themselves. It is sometimes said that the differences among developing countries are now larger than the commonalities. Under the circumstances, how will TWAS remain relevant to all, and remain to be everyone's academy? How will the dreams of its creation remain relevant to all? If we don't understand it, the Academy can become unglued.

We all know that many developing countries are not well represented in the membership of TWAS; women are equally poorly represented. In some form, similar problems of under-representation are faced by some advanced countries as well. This point has been raised

occasionally at the Council meeting and also at the General Conference this morning. The right thing to do is to support young scientists very early in their careers, including special efforts made with women students, so they will ultimately become compelling cases for membership of this and other academies.

I submit that the age of 25 is often already too late: Einstein had formed most of his seminal ideas on space and time before he was 20. The academy must work more closely with younger people, not in terms of short-term fellowships or visits, but in terms of long-term opportunities in the formative stage. When I talk to many young people from different countries, I am often told, sadly, that many of us, distinguished as some no doubt are, have lost touch with the younger generation. There are exceptions to this statement but they mostly prove the rule. This scenario will simply not do. It is not enough, or even important, for our academy to go from awarding 100 fellowships in one year to 200 in the next, but to follow up on some of them to ensure that they do something of quality. It is important for TWAS to create in developing countries, through the cadre of its many distinguished members, an environment in which success is not always scored by quantity. In this information age where an internet blog replaces truth, where scholarship is deemed less important than networking, where impact factors of journals interfere with the infusion of personal cash, it is important for TWAS to encourage a sense of self-worth that does not confuse success for the secondary trappings. TWAS must create a culture of self-referential self-confidence.

My last point is that the Academy's professed motto is sustainable science. But this has yet to translate to greater emphasis on work on geophysical problems that especially plague the developing world: lack of data on earthquakes, tropical atmosphere and moist convection, ecological disasters such as the depletion of fish off the coasts of Africa and Latin America, and spread of Sahara, growth of megacities in developing countries, lack of basic amenities such as electricity for 80% of the population in the those countries, recurring problems with unsustainable agriculture and frequent food scarcity, spread of infectious diseases, and so forth. If this academy does not care about such problems, who will? Who should have greater interest in nurturing a solution to malaria than this academy? I am not suggesting that the Academy should shortchange basic sciences but it must create an environment where work on problems of sustainability are respected and rewarded. It is not enough to write summary reports on such subjects, even if they are from the perspective of the developing world, but to have a novel idea of consequence, once in a while, and follow up on the conclusions that emerge. The value of an individual, an association, a country, or even a civilization, is directly proportional to the great ideas it generates from time to time. TWAS must occasionally generate some great ideas on its own. Otherwise, it has the danger of becoming an empty box.

TWAS is at just the right place at the right moment. It is the right moment because every part of the world has become aware that no part of it can be left too far behind, if only for reasons of self-interest. And TWAS is seen as a possible partner in realizing this awareness. It is the right place because it has had a history of concern for developing countries through 25 years of its successful life, and, in fact, for even longer if you count the years it has inherited---if I may say so---from the culture of my own institution. And it has had dynamic leadership, and I see no lack of it for the future. It is therefore up to us to make TWAS an instrument through which the best ideas and work emerge through its efforts. For that to happen, it is important for TWAS not to get caught up in quantity but focus more on quality. The only thing that makes it worthwhile is this legacy. Indeed, we cannot forget that the best parts of our civilization are based entirely on quality alone.