

'The Truest Guide in Life is Science!'

K. Atatürk



günce

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Adnan Güriz

Managing Editor/ Coordinator

Filiz Çiçek Bil

Presidency & Secretariat of TÜBA

Atatürk Bulvarı 221, 06100 Ankara
Tel: +90(312) 426 03 94, 467 67 89
Fax: +90(0312) 467 32 13
http://www.tuba.gov.tr

DIARY / GÜNCE

TÜBA Tunalı Hilmi 111/9, Ankara
Tel: +90(312) 466 27 66, 428 16 41-42
e-posta: tubagun@tuba.gov.tr
ISSN: 1302-9541

Printer

Semih Ofset Printing and
Packaging Industry Inc.
Büyük Sanayi 1. Cad. No: 74
İskitler/ANKARA
Tel : +90(312) 341 40 75
Faks : +90(312) 341 98 98
11.500 adet basılmıştır.

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Trials and Tribulations of the Founding and Development of The Turkish Academy of Sciences

The Turkish Academy of Sciences (Türkiye Bilimler Akademisi-TÜBA) was founded in September 1993. Its so-called ten founding members held their first meeting in January 1994. The present issue of the Diary has been for the most part devoted to the political, economic, and scholarly dynamics that characterized the years during which the very idea of an Academy jelled, the Academy was founded, and the Academy strove to develop into a full-fledged institution, performing myriad tasks.

This issue of Diary starts with three interviews that Diary recently held with persons who played key roles in the establishment of the Academy -- **Mr. Süleyman Demirel**, former President of the Republic of Turkey, **Professor Erdal İnönü**, former Deputy Prime Minister, and **Professor Tosun Terzioğlu**, former Head of the Scientific and Technological Research Institute of Turkey (TÜBİTAK). In the interviews Demirel, İnönü (presently an Honorary Member of TÜBA), and Terzioğlu (presently a Permanent Member of TÜBA and Rector of Sabancı University). Related the intellectual, scientific, and the political milieu within which the plans for a scientific academy was drawn up as well as what have been expected from such a body. The Diary continues with accounts of (1) the growing pains the Academy have had during its initial years, the difficulties it faced at the time, including the lack of adequate financing, and the projects it was nevertheless able to pursue during those years (by **Professor Ayhan Çavdar**, first President of the Academy) and (2) the story of later years when, not unexpectedly, the most of the earlier difficulties have been overcome, the Academy's interests and activities have become more varied, and the Academy has begun to develop into a prestigious institution respected by governments too (by **Professor Engin Bermek**, the President of the Academy).

One of the basic responsibilities of TÜBA is to elevate the level of scientific thinking on the part of the people at large. **Professor Celal Şengör** addresses himself to this complex problem. Last year, Turkey debated whether and how universities in Turkey should be reformed. Thus, **Professor Bozkurt Güvenç**, **Professor Mithat İdemen**, **Professor Şevket Pamuk** and **Professor Ersin Yurtsever** share their views with us on the question of an 'ideal university'. Also last year, keeping in mind that a science academy has, among other things, a moral responsibility to humanity, **Professor Yücel Kanpolat**, **Professor Diñçer Ülkü**, and **Professor Metin Balcı** visited Afghanistan and felt an obligation to call upon the scholarly community to pay close attention and help in any way they can the people of that country. In this issue of Diary we publish their plea, which was earlier published in *Surgical Neurology* (vol. 62, no. 1 (July 2001): 6-7). We are grateful to *Surgical Neurology* for their kind permission for our use of the article. We also have in this issue an article by **Professor Ayşe Erzan** on an important project TÜBA has been engaged in for some time – how to improve human rights in school textbooks in Turkey.

With our best wishes.

Editor

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“TÜBA is On the Right Track and Going in the Right Direction”

Süleyman Demirel

The Nineth President of Turkey

Diary: The governmental decree, which enabled the Turkish Academy of Sciences (TÜBA) to be founded, was passed in September 1993, and TÜBA began its work on 7 January 1994. We know that you contributed a lot to the Academy’s founding during your time as Prime Minister and President. Could you please give us a little background about how the idea of the Academy was first born, what the rationale behind it was, and how it was founded?

Süleyman Demirel: At a time when the world is entering the age of science, knowledge and information, Turkey needs to formulate and implement its own concept of research and development. A country which is unable to develop its own scientists and researchers will not be able to survive by making use of other countries’ scientists. In today’s world it seems that in the foreseeable future 15-20 of the world’s 200 or so nations will be scientifically and technologically advanced countries, while the remaining 170-180 nations will be colonies of the others in scientific and technological terms. In other words, these countries will be under the hegemony of the advanced nations.

At the start of the 1960s, with this idea in mind, work was begun on creating an institution that would promote and encourage research and development, and I contributed towards the preparation of the law founding this organisation (TÜBİTAK). Thereafter from 1965 onwards I took direct responsibility in government. For a number of years we all supported TÜBİTAK and in 1967 the research institute in Gebze was founded by my government.

The concept of research and development had by then taken root in Turkey, and was part of official government policy. I came to power again in 1991 and formed a coalition government with Prof. Erdal İnönü. One of the important achievements of this government was the creation of a policy towards the sciences. First we developed the Principles of Scientific Policy. Turkey needed a platform, which would bring together the country’s leading scientists, which would provide incentives for research and development, and which would promote scientific thoughts and initiatives throughout the country. As a result, The Turkish Academy of Sciences was created, bearing in mind various suggestions and recommendations.

The Academy is celebrating its 10th anniversary and this is an extremely pleasing occasion.

TÜBA was founded by the passing of a decree, with the force law, which I signed in my capacity as President, and represented the culmination of the work initiated by my government’s policies. The first chairperson of the academy was Prof. Ayhan Çavdar, who as a scientist herself played an important role in its founding and development.

Diary: As in many of your speeches, you again stress the importance of scientific thought. Would you mind sharing your views with us in a little more detail?

Süleyman Demirel: Science requires freedom of thought, mind and conscience. Scientific thought is also a way of thinking that embraces those who do not think the same. In my opinion, efforts to spread the development of scientific thought have been well received in what was previously an undeveloped area. Since the academy’s founding a lot of awards have been given, and scientific methods, approaches, thoughts and concepts of research and development are now discussed in many forums. At the root of all thought is Cartesian thought, which enables one to see truths, analyse and find healthy solutions from reality.

Scientific thought is the work of an inquisitive mind. In my view, inquisitive minds are the most important characteristic of today’s civilisation. Such discoveries and inventions have brought new developments and new colour to civilisations throughout the ages. The 20th Century itself was very rich in terms of discoveries and inventions. From the beginning to the end of the century we see great developments in all spheres. Now the 21st Century needs to be even better than the previous century.

The inventions, which began last century, will continue in their full scope this century. This will be due to the further development of research, science and technology. It is impossible to separate these three from one another, as the truths and reality presented by science are turned through technology into production. Research, however, leads to the creation of new scientific technological achievements.

Diary: In line with your views, one of TÜBA’s main roles has been defined as that of spreading scientific thought throughout society. We know that you closely follow the academy’s work. How would you evaluate its work over the last 10 years and the point it has reached today?

Süleyman Demirel: It is crucial to direct the nation’s talented minds towards the sciences. This is one of the functions of the Turkish Academy of Sciences. A lot of good work has been done in 10 years.

When we consider publications, various meetings and declarations made, we can see that Turkish scientists have great capacity. I hope these unifying and coordinator activities will continue in all areas in the coming years.

I believe that TÜBA is on the right track and going in the right direction. It is continuing to fulfill the role assigned to it by the government decree with the force of law. In other words, incentives, awards and publications should be continued which aim at spreading scientific research, scientific thought and coordination of the sciences.

Diary: We thank you very much indeed.

“Turkey Needs an Independent Body Such as TÜBA”

Prof. Erdal İnönü
Honorary Member of TÜBA
(erdal@gursesey.gov.tr)

Diary: Under what conditions was the Turkish Academy of Sciences born? Did the idea of an academy arise during the time when you were actively involved in politics, or does the idea go back further in time?

Prof. Erdal İnönü: When the Turkish Academy of Sciences was founded I was Deputy Prime Minister. The subject began to be discussed while Mr. Demirel was Prime Minister, but the idea of an academy goes back before our time. The first Academic Society was founded in the 19th century, but it only lasted 10 years. A similar academy was also founded during the time of Sultan Abdülmecit.

Later attempts were made to set up an academy along the lines of the French Academy of Sciences. However, it did not last and was closed after 10 years, mainly because of the small number of scientists and the lack of development of a suitable scientific environment. From time to time the idea resurfaced, and we often heard the words “there should be an academy in Turkey” from our elders.

I began to be interested in ways to develop the sciences in Turkey when I was at Middle East Technical University. The issue first confronted me after the 1960 Military takeover, when Colonel Sami Küçük, who was a member of the National Unity Committee and a member of the Board of Trustees of the University, informed me that they were considering carrying out reforms in the area of the sciences in Turkey (I wrote about the details of the founding of TÜBİTAK in the Third Volume of [my book] *Anılar Düşünceler*), and that they were “thinking of setting up an academy.” At first my colleague, Bahattin Baysal, and I were not very enthusiastic as we considered the greatest need at the time to be that of increasing the number of organisations that would support direct research in basic and social sciences and carry out new research. In our view, therefore, an academy was not the first solution that came to mind.

Many academies, such as the French Academy of Sciences, were founded in many countries with the aim of supporting and encouraging academic research. Academies in Western Europe, America and Japan directly support academic research.

Later universities developed and the private sector began being involved in research. This meant that research was now being directly supported not by academic organisations, but by national research bodies. Such bodies appeared, particularly after the Second World

War, with the aim of speeding up the development of the sciences.

The suggestion we then made was as follows; “The primary need is for a large government backed research body, so let’s not set up an academy just yet, as this is a secondary need.” We suggested this and TÜBİTAK was founded.

However, as time went by, the need for an academy became more apparent. Research bodies give scholarships, allocate projects and set up institutes, but an academy has another important function; that of being an independent arbiter of the level of science in the country, which acts like a kind of conscience, which is a consultant to governments and private organisations, and which provides guidance to the public and the government wherever all the sciences are represented at the highest level.

It is not the job of this body to get directly involved in research. This is what academies in the West tend to do. They represent the level of science, define standards of quality, and play the role of academic referee. We felt there was “a need for such a high level body”, that it was time to set up an academy and we began work in setting it up.

Before we began work on setting up TÜBA we received numerous suggestions from other scientists. One example was that of Prof. Yakup Kepenek, from Middle East technical University, who sent me a letter outlining detailed recommendations for the founding of an academy while I was Deputy Prime Minister. Other colleagues also sent their recommendations, saying it was “time to set up an academy.” Feza Gürsey, who was on the Science Board of TÜBİTAK, was one of these.

As the number of our scientists increased, and as they got to know the outside world better, they saw that the academies in America and France were involved in providing consultation to scientists, setting up academic committees and preparing reports on important current issues. TÜBİTAK could have assumed this role, but it would not have been right for it to be an arbiter at the same time as carrying out research itself. The idea of an academy came about because of the need for an arbiter, which would not carry out research directly itself.

As I was in a position to realise this idea, I began preparations with some colleagues. The first thing I did, of course, was to consult my colleagues at TÜBİTAK. I asked Tosun Terzioğlu, the then Director of TÜBİTAK, to prepare a proposal. He worked together with Ergun Türkcan and others for a month, and after a few alterations the first draft appeared, which I showed to the

Prime Minister, Süleyman Demirel. He agreed that it was time to set up such an academy, and the draft law was passed by parliament. At the same time President Turgut Özal passed away, so I had to show the draft to the new Prime Minister before it was accepted. Finally it was signed by the President and was passed as a decree, with the force of law.

There was also an attempt made to create a separate academy for research in social sciences but this was not signed by the President.

Diary: Immediately after the founding of TÜBA, its members had to be selected. What approach did you take in this?

Prof. Erdal İnönü: Naturally the first step we took was to choose the members. As it had to consist of scientists it was not possible for one person to sit down and choose the names on their own. A core group was chosen and initially this group was appointed by the government as founding members. These founding members selected new members after much deliberation, on account of their research and scientific activities. This process took a long time.

Diary: How would you evaluate the progress made during the past 10 years? To what extent have the aims been achieved?

Prof. Erdal İnönü: The process of setting up the academy took a large part of the 10 year period, but has been completed successfully. A number of committees were set up to represent the sciences at the highest level, and various reports have been written, but these have not yet had the effect we anticipated. Research culture is not yet established enough in Turkey and the academy is still very new. TÜBA is successfully continuing on its way. As I mentioned before, during the period of the first director most of the time was spent on the process of setting up the academy. An original journal has been published in the field of archaeology, international scientific conventions and conferences have been organised, relations have been established with academies in other countries. As there is no institute in Turkey, which carries out research in social science, attempts were made during the period of the first director, Prof. Ayhan Çavdar, to be influential in the social sciences. Scholarships, research grants and awards have been given.

During the time of the second chairperson of the academy, attempts were made to directly support research. Despite it having been in effect for only two years, the academy's Programme of Awards for Highly Successful Young Scientists (GEBIP) has proven very useful. A number of recipients of these awards have since gone on to do research at higher levels.

We have now come to realise at this point in our life of research that we need to increase both the quantity and

quality of first class research. This is indeed the aim of GEBIP. TÜBA is involved in an increasing number of useful initiatives.

Sometimes criticisms are leveled at TÜBA, that "it should only play the role of an arbiter", but there is always a need for a body to support research in Turkey, and in my view the support given by the academy to research has been very useful.

In the future TÜBA will deal with subjects such as nuclear energy, academic plagiarism and biological ethics, and will assume the role of arbiter in issues related to the development of science, which are felt to be in conflict with high level national interests. Turkey has great need for an independent body such as TÜBA.

Diary: You mentioned that the research culture in Turkey is not very widespread. Would you say, then, that TÜBA has not been sufficiently influential in this area?

Prof. Erdal İnönü: We need a lot more time to convince people that TÜBA is meeting a real need. It is a question of scientific culture, which is not yet sufficiently established in Turkey.

I always say that not enough has yet been done in Turkey to get people to understand science. What is needed is for a scientific discovery made in Turkey to affect the lives of the people. All discoveries and technological inventions that have affected people's lives have been in other countries and then brought to Turkey. For this reason public opinion in Turkey views science as something useful only when it is carried out outside Turkey.

If a new discovery that leads to developments in industry, health or society, were made by a group working in Turkey, and if this then impacts on people's lives in Turkey, then we would solve the problem of not understanding science.

Perhaps the academy can publish or translate books, which show the important role of popular science. There is a need for such things, which can accelerate the establishment of a scientific culture.

The academy has done this with some publications. Darwin's theory has been accepted throughout the world (as a scientific concept) for years, it has been very useful and has continually led to new research. However, throughout the world there is also a religious view, which argues that, "Darwin's theory is wrong, it is not scientific. People, animals, all creatures were created as mature and developed beings." This view is only based on belief. Something, which has been stated by a religious authority, may be believed, but this does not make it something that can be scientifically supported. It is not something, which can be taught by a scientific body. When the academy states, as it has indeed done, that such claims are wrong and are not a scientific theory, this carries weight. As I

stated previously, the academy is the body, which can proclaim what is and what is not scientific.

Another issue is that of academic fraud. Scientists, like all humans, are fallible. Some individuals present something as their own, either without having done the research themselves, or by copying research done by someone else. If undetected this individual may progress in this way. The academy should not deal with individuals, but it needs to proclaim that it is wrong to engage in such wrongdoings. It has begun to play the role of arbiter in such cases and will become even more influential in the future. There is a need for a body, which can be an arbiter which overcomes human fallacies.

Diary: You pay particular attention to the subject of scientific education. Where do you think we are as a country in terms of scientific education and development?

Prof. Erdal İnönü: Research began in Turkey with the reforms of 1933. Research was done before this, but it was only with the 1993 reform of Istanbul University and the founding of the Higher Agricultural Institute Ankara those universities and research institutes entered the arena.

70 years is too short a time for scientific work to reach the level we would like it to. In the rest of the world there is a current of science, even a river of science. A river has many branches. We need to be able to flow at the same speed in the same river.

It would be wrong to say that we are a ship that is able to travel in this current. Before 1933 we simply watched unconsciously from the sidelines. In 1933 we started to observe consciously. From time to time we find a small boat, but we frequently run aground. With a number of small boats we are trying to keep up, and a few may even travel together (such as Gazi Yaşargil and Feza Gürsey).

It is clear what needs to be done. We need to increase the number of researchers, the amount of funds devoted to research and the time spent on research. We should not underestimate our position in the world science league table, but this is not enough. Similarly the development of our scientific culture is also not enough. It is essential that we increase our rate of development and arrive as soon as we can.

It would be wrong to view the modern civilisation shown to us by Atatürk as a mere Utopia. Scientific education is an essential part of modern civilisation.

Diary: Thank you very much indeed.

“Academies Like TÜBA Breed Envy”

Prof. Tosun Terzioğlu
TÜBA Principal Member
(tosun@sabanciuniv.edu.tr)

Diary: You were a leading figure in drawing up the draft decree concerning the founding and workings of TÜBA. What approach did you take and what procedures did you follow in drawing up the draft law?

Prof. Tosun Terzioğlu: At the beginning of 1993 I was chairman of TÜBİTAK, which was responsible directly to Deputy Prime Minister, Erdal İnönü. Prof. İnönü announced that the High Commission for Science and Technology, which had been formed previously but had never met, would come together, and asked that I prepare a proposal concerning the founding of TÜBA. We had very little preparation time, so we had to work very quickly. One of the proposals we submitted to the High Commission for Science and Technology was in fact for the foundation of the Turkish Academy of Sciences.

The draft was submitted to Prime Minister Demirel on 3 February 1993 and was accepted. In May it was announced in the Prime Ministry Circular. The details of the new law and the draft proposal were published point by point in Cumhuriyet newspaper's Bilim Teknik (Science and Technology) supplement. There were different reactions in different circles, criticisms from university lecturers, parts they approved of and parts they disapproved of. In light of the criticisms we felt were justified, we made changes to the proposal. At that time the government was invested with the power to pass decrees with the force of law. With Prof İnönü's approval we drew up a proposal recommending amendments to the law outlining the founding of TÜBİTAK, and turned the law concerning the Turkish Academy of Sciences into a decree with the force of law. The proposal concerning TÜBİTAK recommended extending its area of responsibility to include social sciences. After subsequent consultations with Prof. İnönü, who suggested that “TÜBİTAK not extend its area of responsibility, and that a separate body be created for social sciences”, we made further changes. We prepared another proposal recommending the setting up of a new body, the Institute for Economic and Social Research of Turkey (TESAK). Both of these drafts were submitted to the approval of the cabinet.

At this time Özal passed away, Süleyman Demirel was elected President, and Erdal İnönü announced on 6 June 1993 that he would be resigning from his post of deputy prime minister, but that he would continue to offer his support to this process as an independent member of parliament. The first document was signed by the cabinet, but the TESAK proposal was problematic; it was signed

late. At the time it was sent to the President for approval, the Constitutional Court had annulled the law that authorized the cabinet to make decrees with the force of law. The TESAK proposal went unsigned, therefore, and remained null and void.

There was an interesting point concerning the founding of TÜBA. The regulations authorising the cabinet to pass decrees with the power of law was found to be unconstitutional and the main opposition party, ANAP (Motherland Party), appealed to the Constitutional Court and successfully had the relevant articles of the law annulled in one sitting. They did not, however, contest the laws concerning TÜBİTAK or TÜBA. Had they done so, TÜBA would have been closed down only a month after its founding. In other words, TÜBA received the silent support of the opposition.

Diary: What did you pay particular attention to when preparing the proposal?

Prof. Tosun Terzioğlu: Prof. İnönü asked us to take great care not to give priority to any one science, saying “all sciences, including social sciences should be represented equally, not only natural sciences as is the case at TÜBİTAK.” We made our preparations accordingly.

It was felt that the body should be totally autonomous and that members should not be appointed. However, initial members had to be identified. The first 10 members were approved by the Prime Minister, and were then referred to as ‘founding members’, which in one sense they were.*

I worked individually with Prof. İnönü to form this group of 10 members. He paid great attention to detail and insisted that there be an equal number of social scientists to the extent possible. The list we drew up together was approved by Prime Minister Çiller. After TÜBA’s founding there were rumours that “Tansu Çiller had insisted on person X and rejected person Y, etc”, but there were in reality no such problems.

There then followed the process of setting up the academy. There would be new members, and when the numbers reached 20 a chairman and committee members were to be elected. The initial 10 members met on numerous occasions and worked extremely carefully to decide on the names of the other members. I attended most of these meetings as an independent observer and minute-taker, as I was then not a member of TÜBA. I especially asked the 10 members not to choose my name, or even anyone from TÜBİTAK, so that nobody could then say, “they founded something and then had themselves elected.”

Subsequently the number of members rose to 20. A committee and chairman were elected at a meeting at Bosphorus University, which I again attended. I did not cast a vote, but I was entrusted with the counting of votes. The academy was thus founded and became active.

Diary: When we consider the decree founding TÜBA, we see that the aims were kept very general. Was that because you were intending to embrace all subject areas?

Prof. Tosun Terzioğlu: Yes, we tried to write the aims as best we could. At state universities no distinction is made between researchers working hard, and those carrying out their routine work. Civil servants in Turkey are considered according to rank and level rather than according to performance. We wanted to change this. One of TÜBA’s aims was to reward Turkey’s leading scientists by making them members of the academy, and by providing support (including financial). We thought this would constitute a model for all universities in Turkey. A further aim was to play an influential role in government policy regarding Turkey’s long term scientific and technological development. We took care not to tread on TÜBİTAK’s toes in any way, as TÜBİTAK had a role specified by law, but we felt that it would be useful for a body other than TÜBİTAK (namely TÜBA) to look at science and technology from a long-term perspective. Moreover TÜBİTAK still was not involved in the social sciences. TESAK was not founded, as the law was not passed. TÜBA, therefore, needed to try its best to give more support to social sciences. It has attempted to implement support programmes for the social sciences and it has been successful in this.

Diary: You identified the first members. Did you receive a lot of criticism in this regard, either at the time or since then?

Prof. Tosun Terzioğlu: We chose the first 10 members, but subsequently an automatic system was developed. Some of our university lecturers at the time disagreed with the idea of an academy. An academy such as TÜBA, would lead to jealousy, with some people jealous of not having been selected as members. As long as this is not taken to the extreme it can be helpful in increasing competition. The number of TÜBA members was decided very carefully and a paragraph was inserted into the degree which read, “the number of members shall not exceed a certain percentage of the number of professors in Turkey.” This shows that it is not possible for all professors in Turkey to become members. We are aware of the fact that the size of some academies, particularly in the former Soviet Union and Eastern Bloc countries, reached huge proportions and that some members used them as a means to escape the responsibilities of teaching, thus rendering them ineffective. Academies in countries such as Hungary, Bulgaria and the Soviet Union became thorns in the sides of the new governments, and great effort was made to prevent such a situation arising in Turkey. Personally I believe the approach we have followed in Turkey is the correct one. The academy has been extremely selective and careful in its choice of members, arguably sometimes too much so. This is a matter of interpretation, but I do not believe it has ever gone that far.

Diary: May we learn your future expectations of TÜBA?

Prof. Tosun Terzioğlu: There are differing expectations from TÜBA. It is a new organisation and was never intended to be an alternative of TÜBİTAK. When we were preparing decisions at the Higher Council for Science and Technology we attempted to make use of an academic draft document prepared by our invaluable colleague, Feza Gürsey. However it was not of much use to us because it was drawn up with the academy as an alternative to TÜBİTAK in mind. TÜBA is not an alternative to TÜBİTAK and it was never considered to have such a purpose. TÜBA is also not a closed club which keeps its own members busy and supports their research. TÜBA has the important duty to help the spread of science, technology and this particular culture in Turkey, provide an incentive for research, bring new areas of science to the forefront, and in particular encourage inquisitive young people to take up science and research. These are extremely important aims. We are living in such an age that science and technology increase the competitive power of a few countries. TÜBA's mission to encourage and excite young people and to spread the word of science, is crucial.

Diary: How would you evaluate the point TÜBA has reached after 10 years?

Prof. Tosun Terzioğlu: I feel the academy has not done enough to publicise itself. Of course, it would be wrong to publicise yourself just for the sake of it, this should be done through its activities. It is very important to create good relations with the media, and to pass on information about scientific and technological developments in the world, because most of the news about science and technology in the Turkish media is translated. This usually includes a comment or two about Turkey which is in direct conflict with local reality. A few days ago there was a story in a Swedish newspaper about a mathematics exam which was made deliberately difficult for women so that they would be less successful. At the end was a comment, "if it is like this in Sweden who knows how bad it is in Turkey!" In terms of academics, particularly in the branch of mathematics, Turkey is well ahead of Sweden. Such informed comments tend to stay in the memory. Perhaps one of the useful roles of TÜBA could be to work like a news agency to ensure that correct news is published, and to prevent erroneous news about science and technology in Turkey. But if you ask me how this could be done, I am not sure.

I hope TÜBA will develop even further. It really has played a leading role in bringing certain issues, such as 'scientific ethics', into the public eye in Turkey. In fact TÜBA, TÜBİTAK and several universities have all played a role in encouraging the increase of scientific publications. I expect there to be an increase in the coming years in cooperation between industry and

universities, something which is currently missing. I also hope that TÜBA will contribute to the development of long-term state and government strategic planning related to science and technology.

Diary: How would you evaluate the development of science and technology in Turkey?

Prof. Tosun Terzioğlu: The document agreed at the Higher Council for Science and Technology on 3 February 1993 was entitled "Policy towards Science and Technology in Turkey, 1993-2003". As 2003 is now behind us, we need to look back and take stock of the last 10 years. We had set several aims for these 10 years, one of which was that the share of GNP devoted to R&D should exceed 1%. I don't expect this aim to be realised, with the figure remaining at about 0.65%. I prefer not to go into the reasons for this, but this target has not been achieved. A second aim was to increase the number of researchers from 7 to 15 per 10.000 of the working population. I expect this target to be reached. I say 'I expect', because the latest figures at our disposal are for 2000. As the figure then was 13, it should reach 15 at that rate of increase. So this aim has been met. However, the figure is still low. 15 researchers out of 10.000 is a low figure.

The third aim was to increase the funds given to R&D by the private sector from 18% to 30%. This target too has been met, the figure is actually nearing 40%. Turkey was in 40th place in terms of the citation index of science journals. The aim was to reach 30th place and this was achieved in 1996 when Turkey was in 28th place. Last year Turkey was in 22nd place, which is a very important leap.

Another of the aims was to set up TÜBA and this has also been achieved.

A further aim was to establish a Centre for Theoretical Research which would serve the social and basic sciences in İstanbul, but this did not happen. I still feel there is a great need for a centre, which would serve our scientists in a megacentre, such as İstanbul. It should be open to all branches of science. At TÜBİTAK we made great efforts to find an unused historical building in İstanbul, restore it and turn it into such a centre. We even found a building, but the then Governor of İstanbul turned us down, saying that "the Ministry of Education needs it". The building was later donated by the Ministry to a trust. We were shown another building which was extremely suitable, but this request was turned down by Prime Minister Tansu Çiller and Deputy Prime Minister Murat Karayalçın. It belonged to the Prime Ministry and is, to this day, empty and unused. If this building had been given to us in 1995 it would have been operational by now. It made me sad not to have managed to achieve this goal. It would have been easy to bring world renowned researchers together in such a centre to carry

out research for certain periods. TÜBİTAK and TÜBA could have done this together.

Diary: Despite these deficiencies, could you tell us of any positive developments in the name of science in Turkey?

Prof. Tosun Terzioğlu: There are companies which even place research and developing technologies into their advertisement. Of course there are positive developments, but we can see that the aim of increasing the share of funds devoted to science in the last 10 years has not been met. This may be explained by factors such as economic difficulties, earthquakes, etc, but at the end of the day the private sector has fulfilled its duty whereas the public sector has not.

What I always hoped to see was a political will and political parties, which accepted science and technology as one of the most important factors in a country's development, but this has not happened. Even farmers eat less during a season of drought, leaving aside enough seed for the next season, they don't say, "I'll fill my stomach now and somehow find the seed later."

As more and more people are concerned with the issue today, several political parties are now including a section on their policy towards science and technology in their election manifestos. Sometimes I read these in great detail and notice that they are mostly taken paragraph by paragraph from old TÜBİTAK documents. They haven't even taken the trouble to change them in any way, so they all resemble one another. At least the TÜBİTAK documents have found their way into election manifestos.

Diary: Thank you very much indeed.

* The first ten members were nominated by TÜBİTAK on the basis of the articles published in prestigious journals abroad (Editor's note).

The Early and Difficult Years of the Turkish Academy of Sciences

Prof. Ayhan O. Çavdar

**Founding Chairperson and
Honorary Member of TÜBA
(acavdar@tuba.gov.tr)**

The Academies in the world were founded centuries ago and were initially interested in philosophy and art and later on they showed interest to science. They were usually referred to as either "Academy of Sciences" or "Academy of Sciences and Arts". Moreover there have been some special academies in various countries, named as "Education", "Engineering" and "Regional Academies". The first academy of modern times goes back to the 13th century (when Academy of Philosophy and Arts was founded in 1270 in Florence), if we disregard the very first Academy which was founded in the woodland near Athens where philosophers used to meet in Plato's time, (named after its owner Akademos) and later closed down.

In our country's history, until recently there had not been what we might call an Academy of Science, despite various attempts in the past. Although Prof Albert Malche, in his proposal for the reform of Istanbul University in 1933, recommended the creation of a National Academy of Sciences, Literature and Fine Arts, this was not realized. Similarly the idea of founding an Academy of Sciences was discussed in the 1960s, but priority was given to TÜBİTAK.

Bearing in mind that academies of sciences were formed in other countries centuries ago, we can say that the Turkish Academy of Sciences, (TÜBA) entered into Turkish academic life quite late. TÜBA, which was founded by the Decree no. 497 on 2 September 1993, is about to celebrate its 10th anniversary.

TÜBA was founded with the initiative of Deputy Prime Minister Prof. Erdal İnönü during Süleyman Demirel's government, and began with the following 10 "Founding Members", who were proposed by TÜBİTAK and appointed by the Prime Minister: Prof. Engin Bermek, Prof. Ayhan O. Çavdar, Prof. Ufuk Esin, Prof. Burak Erman, Prof. Metin Heper, Prof. Çiğdem Kağıtçıbaşı, Prof. Yavuz Nutku, Prof. Murat Sertel, Prof. Celal Şengör and Prof. Erdoğan Şuhubi.

As the details of the work leading up to the founding of TÜBA, are not adequately known, so I shall summarise the main events as such: The ten founding members of TÜBA met on 23rd September, 2nd October, 31st October and 6th November 1993 under the chairmanship of the President of TÜBİTAK, in accordance with Article 1 of the

Decree. The following 10 scientists were elected as full members to form the Academy's General Assembly; Prof. Metin And, Prof. Ali Alpar, Prof. Cumhuri Ertekin, Prof. Hamit Fişek, Prof. Mithat Idemen, Prof. Gündüz İkedda, Prof. Namık Kemal Pak, Prof. Şefik Süzer, Prof. Tosun Terzioğlu and Prof. R. Kazım Türker. The election process used the principles of secret ballot and unanimous vote, so that the candidates who did not receive all votes were (with one exception) not put into a second round of voting. The late Prof. Murat Sertel, helped set up procedure for elections. Any candidate who was vetoed by one of the members was not elected. I remember one of the members (who was visiting, I believe, Nepal at the time) used such a veto. The 20 members of the General Assembly of TÜBA held its first meeting on 27 November 1993 at Boğaziçi (Bosphorus) University and the Academy's Chairperson and members of the Academy Council were elected by secret ballot namely as follows: Prof. Ayhan Çavdar as the Academy Chairperson, Prof. Ali Alpar, Prof. Engin Bermek, Prof. Burak Erman, Prof. Hamit Fişek, Prof. Metin Heper, Prof. Murat Sertel, Prof. Celal Şengör, Prof. Şefik Süzer, Prof. Erdoğan Şuhubi and Prof. R. Kazım Türker as the members.

In accordance with the Decree founding TÜBA, the Academy Council, which has been in charge of organising and carrying out the academy's activities held its first meeting on 7th January 1994, during which it attempted to nominate new members to be elected by the General Assembly, and to establish the "principles" and "procedures" for the operation of TÜBA.

It is not quite possible to cover in this paper and summarize all the activities of TÜBA during my six and half years term as a Chairperson, but I shall attempt to outline some of our achievements below, during these difficult early years.

Some of the main activities during the period of January 1994 to June 2000 may be summarized as follows.

1. Election of Members of TÜBA

During the early years we gave priority to gain new members from all branches of sciences, as we felt that the scientific richness and strength of an Academy lay with its scientific background, knowledge and experience.

During the selection process all publications, original contributions to science, national or international awards, citations in Science and Social Science Indexes were scrutinised and the relevant information was distributed to the all members of the Academy Council and General Assembly before each election. These elections took place amid extended discussions and careful scrutiny by the council (11 members). Meanwhile, it was agreed upon that only candidates receiving the positive votes of at least eight members would be recommended to the General

Assembly, and that no more than one negative vote would be accepted. Candidates approved by the Academy Assembly would be subject to the same careful scrutiny from the General Council, who would vote in secret ballot. During my term as Chairperson the total number of members of TÜBA rose from 20 to 108 (26 Honorary Members, 73 Full Members and nine Associate Members). It is worth to note that 16 percent of these were female scientists, as the highest percentage of women scientists in any Academy of Sciences in the World (the World average was under five percent).

2. TÜBA's Efforts to Support "Social Sciences"

Within the framework of its aim of encouraging scientific work and research, TÜBA attempted, within the constraints of its budget, to support various research programmes related to the social sciences, an area which have been outside the coverage of TÜBITAK and which have been insufficiently supported in Turkey. These can be summarized under the following headings;

- **National and International Combined Doctorate Scholarship Programme (BDBP)**

- **Post-Doctorate Overseas Research Scholarship Programme (DSYDAB)**

- **Programme of Incentives for International Scientific Publications**

- **Programme of Support for International Scientific Conferences**

- **Programme of Support for Scientific Journals**

Among these I would particularly like to stress the **National and International Combined Doctorate Scholarship Programme**. One of the main aims outlined by the "High Commission for Science and Technology" in 1993 related to science and research, was to increase the number of people and funds allocated to research. It was crucial for our country to raise the number of people with Ph.D.s, particularly in the social sciences. TÜBA started the "National and International Combined Doctorate Scholarship Programme" (BDBP) in 1996. This scholarship programme aimed at giving certain support to university institutions where Ph.D.s studies are performed and to support Ph.D. students in these institutions in carrying out parts of their research at home and abroad, thus enabling them to receive their Ph.D.s degrees in Turkey. This was done on a purely academic basis by a commission set up by the Academy's Council, and proved its value as a new model for developing Ph.D. students, as was indicated by the reports from advisory scientists at home and abroad. Moreover this model proved to be more economical than the Higher Education Council (YÖK) scholarships, and partly helped to stop the brain drain. Despite the cuts to its budget in 1998, and the ensuing difficulties of continuing its programme of scholarships, TÜBA managed to continue its support of scholarship students through additional fund from the then-Finance Minister Zekeriya Temizel, and through the

generous gesture of TÜBA Honorary Member Prof. Bernard Lewis, who donated a large proportion of his **Atatürk Peace Prize** money to TÜBA. By June 2000 scholarships had been given to 91 young researchers (this figure rose to 147 in September 2003).

Other activities worth mentioning are the followings:

TÜBA set up its **Post-Doctorate Overseas Research Scholarship Programme (DSYDAB)** for Social Sciences in 1997 for students with a Ph.D. in the social sciences, to enable them to carry out part of their research abroad. By June 2000 it had given scholarships to 40 students (this figure rose to 91 in September 2003).

- Within the framework of the **Programme of Incentives for International Scientific Publications**, 459 academic publications in different fields of social sciences, cited in the Social Science Citation Index and the Arts and Humanities Citation Index, were supported during the period between 1995-2000.

- **Programme of Support for International Scientific Meetings** was set up in 1996 and provided partial support for several international scientific conferences in Turkey.

- **The Programme of Support for Scientific Journals** provided support for journals in Turkish or foreign languages which were covered by the Social Science Citation Index.

3. Scientific Meetings

In the immediate years of its foundation, TÜBA organized various scientific meetings and conferences with the aim of developing scientific thoughts and approaches spreading throughout society, creating a scientific platform and gaining a better respect and acceptance from the public. It is beyond any doubt that scientific development goes hand in hand along with the level of "scientific education". For this reason, TÜBA organized various meetings, towards analysing the status of the present universities and the education systems in Turkey from different perspectives. During my term at the office, the following meetings were held;

- **Science, Ethics and Universities in Turkey and the World** (1994)
- **Science and Education** (1994)
- **University Law** (1995)
- **Academic Promotion at the Universities** (1995)
- **What Kind of University Graduates do we Want** (1996)
- **University Entrance** (1996)
- **Training of the Scientists in Turkey and the World (Postgraduate Education)** (1996)
- **Basic Education** (1997)

Other important meetings during this period were as follow:

- **Science and Turkey's Future** (1996)

(This was organised jointly with TÜBITAK, Istanbul University, YÖK and TÜSIAD/ and ended with a "call to rationalism.")

- **Habitat II Forum of Academies** (1996)

- **Development of Human Rights** (1997)

(This was held in Istanbul with international attendance; and Minister of Justice of the time made a speech)

- **Meeting of Central Asian Turkish Science Academies** (2000)

On 26 June 2000, a two-day meeting of the Central Asian Turkic Science Academies was held for the first time in Ankara and important decisions were taken concerning the development of scientific cooperation in the future. The scientific delegation visited the then Prime Minister Bülent Ecevit.

4. Projects

Below are some of the projects started in the early years of TÜBA which I believe are the most important:

- **Project for the Loss of Values in Society**

One of the most important factors in the functioning of a democratic society is for all citizens and organisations to be aware of and to carry out their responsibilities, bearing that fact in mind, TÜBA decided to carry out scientific work within the framework of a project on the social, cultural and economic crises in Turkey and the accompanying degeneration of values. Scientists and academicians prepared reports on 15 different fields and these were then subjected to scientific analysis. This resulted in the publication of a book in November 1998 entitled, "**Crisis in Turkey and Democratic Solutions** (Project Report)", which was open to public discussions. This comprehensive project enabled the subject of the crisis within a conceptual framework to be analysed scientifically.

- Where Are We in Scientific Development During the 75th Anniversary of Turkish Republic?

Another project we took very seriously was in regard to organization of international and national conferences on the occasion of the **75th Anniversary of the founding of the Turkish Republic**. In December 1998, an international conference, entitled "Evaluation of 1923-1998: A Collective Look at 75 Years of the Republic", was organised in Ankara in cooperation with the Foundation of Economic and Social History of Turkey and the Turkish Social Sciences Association. A large number of papers were presented by national and international delegates which provoked much enlightening discussions from several aspects of the Republic's aim of bringing up the country to the contemporary stage, and an evaluation was made on the scientific, technological and cultural benefits that this period brought to society. The next and final stage was the "**National Science Meeting**" (Evaluation of 1923-1988 in the 75th Year of the Republic), which was held at Istanbul Technical University, with the support of the Academy in October 1999, at which reports were drawn up outlining developments in different fields from archaeology to mathematics, which were then published as a series of four books.

- Social Science Publication Performance in Turkey

One of the first issues TÜBA tackled with was to determine Turkey's position in the World in terms of publications from Turkey covered by Social Science Citation Index and to make recommendations accordingly. A commission consisting of four TÜBA members was formed for this project, and the report to that effect was published in 1988.

- Social Sciences in the Republican Era

The developments in the social sciences in 24 different branches from "linguistics" to "educational sciences", and from "social psychology" to "management" during the Republican Era were investigated by experts and the results were published in the form of two books.

5. Announcements

As part of the advisory role as has been assigned by the Governmental Decree, TÜBA made several announcements to the public on issues that it attributed importance, some of which are mentioned below:

<u>Subjects</u>	<u>Years</u>
Freedom of Thought	1994
Call to Rationalism	1996
Scientific Thought, Search for the Truth and Freedom of Expression	1996
Unity of Teaching	1996
Higher Education	1996
Autonomy of Scientific Institutions	1996
Autonomy of Institutions of Higher Education	1997
The Future of Higher Education	1997
Respect for Science, Culture and Art	1997
Protecting the Secular Republic	1998
Evolution Theory I, II	1998

6. TÜBA Conferences

Within the framework of the **Anatolian Conferences** started in 1995, members of the Academy organised scientific conferences at the universities outside of Ankara, Istanbul and Izmir, mainly on their own areas of research or related to TÜBA. Discussions on scientific issues at the universities, led to creation of positive cooperation between TÜBA and newly formed universities as well as inspiring intellectual stimulus. Between 1994 and 2000, Academy members gave 158 conferences at Anatolian universities. Within the framework of the celebrations of the 75th anniversary of the founding of the Republic, TÜBA also organised a series of so-called "Scientific Conferences".

7. Awards

TÜBA initiated, a programme of Awards ("Science", "Service" and "Incentives" Awards) in the social sciences in 1995, and by so doing added the TÜBA-Awards to the highly prestigious science awards given by TÜBİTAK since 1967, which are often presented by the President of Turkey. Between the years 1994-2000, two "Science"

Awards, 14 "Service" Awards and 7 "Incentive" Awards were given in the Social Sciences by TÜBA.

8. Relations with World Science Academies and International Organisations

The founding of TÜBA created an interest on the ALLEA (All European Academies) and TÜBA was invited to the General Assembly meeting the ALLEA in 1994, in Paris; TÜBA was accepted as a member at this meeting and thereafter attended ALLEA meetings held in Budapest (1996), Munich (1998), and Prague (2000). In addition, relations were established and developed with foreign academies in such countries as Austria, Belgium, Bulgaria, Denmark, France, Germany, Holland, Hungary, India, Israel, Korea, Macedonia, Norway, Pakistan, Sweden, Switzerland, USA and Uzbekistan. Protocols of cooperation were signed with the Austrian, French, and Bulgarian (medicine) Academies of Sciences.

TÜBA has also attended in the following institutions, as a member or observer;

- **European Science Foundation** (Social Science Committee, 1995 and 1996, as an observer)
- **Science Academies International Human Rights Group** (1995, as a member)
- **Inter Academy Panel** (1997, as a member)
- **Organisation of Third World Academies of Science** (TWNSO, 1997 as a member)
- **Network of Academies of Science of the Mediterranean Countries** (1998 as a member)
- **Union of Asian Academies** (AASA, 1999 as a founding member)

9. Publications

During this period TÜBA published 20 books on the above subjects. Moreover, four issues of the **TÜBA-AR**, "Archaeology Research Journal" were published. **TÜBA-Bulletin** giving up-to-date news of TÜBA were also published (15 editions) in Turkish and one issue in English entitled **TÜBA News**.

From time to time TÜBA experienced difficulties, particularly in the following areas:

Shortage of Staff

TÜBA started to work in the first months of 1994 with one single expert (uzman) from TÜBİTAK. By 2000, number of staff had reached 20 and included a vice-chairman, consultant, researcher, expert, secretary, etc. This figure of staff in 2000 was obviously not enough for TÜBA even to communicate with its 108 members.

Shortage of Financial Resources

The first support that TÜBA received was 9.6 billion TL added to TÜBİTAK's budget (of this only 7.6 billion TL was realized). As a result of its activities, TÜBA was able to increase the size of its budget; however, as the initial budget allocation was very low, subsequent increases remained limited.

Limited Available Working Space

TÜBA did not have access to its own building in Ankara, and had to work out in a single floor at the

TÜBİTAK building caused some problems. In Istanbul, however, cooperation with Istanbul Technical University (İTÜ) Rector of the time, Prof. Glsm Saęlamer, enabled TBA to use a 250 m² space in İT's Faculty of Mine Engineering, in 1998. This office is still used today. In Ankara an additional office was acquired in an apartment flat near the TBİTAK building in June 2000. Today TBA continues to work in these separate offices. Despite numerous promises made, TBA has not been able to acquire an historical and valuable building that befits an Academy of Sciences.

TBA-Government Relations

Frequent changes of Governments caused TBA to work with different Prime Ministers and their deputies and consequently resulted in some problems due to their variable approaches to the sciences.

Relations with the Media

As a result of its limited budget, TBA has not been able to employ a "public relations officer", and has had to carry out this work through the individual efforts of its President and consultants. In a sense the tendency for the Turkish media to give priority to "politics", "sports", and "sensationalism" has prevented science from coming to the forefront. Nevertheless, the TBA endeavoured to publicise its name and its work through TV programmes, and through newspaper reports and articles (by the chairperson).

It should be stated that one of the most important duties of an Academy of Sciences is to provide consultancy in the matters of science. This requires that there should be sufficient knowledge and experience within the Academy, and that the Academy remains unbiased and neutral in the decisions it takes, which should be based solely on science. It is essential that Academy works independently of political, economic, and professional forces.

In its short life as a scientific body, TBA has worked hard and its members reached at a figure of 108 by June 2000 (by November 2003 there were 116 active members, including honorary, full and associate members).

TBA since its inauguration, attributed importance to the issues which are concerned by the scientific community and public opinion and, in the early 1990s, it organised conferences, and meetings, made public announcements related to YK (Higher Education Council), universities, and the university Law. The fact that these issues are still in the agenda in 2003 substantiates the right approaches of the Academy. We may say that TBA's founding has created an excitement in Turkish scientific circles, particularly at Universities, and has attracted attention of the World Academies of Sciences.

All the efforts made by the Turkish Academy of Sciences since its founding have been to encourage the development of science in our country, to raise its profile within society, and to encourage scientific activity. By so

doing, it has never lost sight of the fact that secular education is an absolute precondition of scientific activity. In today's world where scientific knowledge is the most important value, I have every confidence that the Academy will continue to show the way forward to science and rationalism.

I would like to express my thanks firstly to the all members of the Academy Council, to the TBA members in general for their support, to TBİTAK for its partial support, and to the TBA- office staff for their continued, hard and dedicated service, and especially to our senior advisors (Prof. S. Ç. zoęlu), for their efforts during the years of TBA's founding. If it were not for them, TBA would never have reached its present level of development.

An Evaluation of the First Ten Years of the Turkish Academy of Sciences

Prof. Dr. Engin Bermek
President of the Academy
(tuba@tuba.gov.tr)

The Turkish Academy of Sciences was founded by a decree-law on 3 September 1993 as a scientifically, administratively and financially autonomous body attached to the office of the Prime Minister. The mission of the Academy is to act as a consultant on matters related to science, to promote scientific research in all fields of science, foster scholarly endeavour, to honour those who are striving in those fields; to encourage young people to participate in scientific research; and to protect and enhance the social status of scientists and researchers in Turkey.

In accordance with Interim Item 1 of the decree-law which stated that this would happen only once, the Prime Minister appointed on 12 September 1993 10 principal members who elected 10 other members to constitute the General Assembly of the Academy. The first meeting of the General Assembly took place on 27 November 1993, at which Academy President and 10 members of the Academy Council were elected. Having set up all the academy organs, the Academy Council started work at its first meeting on 7 January 1994.

The above regulations and others outlined in its founding decree-law determined the nature of the establishment, activities and the first ten years of the Turkish Academy of Sciences. This article will summarise these developments and activities and then critically evaluate the Academy in their light.

The main 'raison d'être' of any academy of sciences is without doubt the principle of scientific merit. This principle becomes prominent during the establishment of academies, i.e., the election of academy members where no political, ideological, social or any other factor other than scientific ability should play a role. This basic scientific principle is defined in detail in the founding decree-law of the Turkish Academy of Sciences.

During the past 10 years, great effort was made to abide by these principles and to establish an organisational culture. The selection of members of the academy followed a certain procedure: a candidate had first to be proposed by a member of the Academy and this proposal had to be supported by two other members, then referees appointed by the Academy Council would vet the candidate and send their recommendations to the Council which would itself make a recommendation to the General Assembly for a vote on the candidate. The Academy selected candidates according to this procedure throughout these ten years. However, there would seem to be a tendency for members to be concentrated in

certain branches and disciplines, mainly due to the reluctance of members to see themselves as having the authority to nominate candidates from other branches than their own. The Academy has reached the point where there is a need for a more effective and objective process of membership selection, and with this objective in mind the Academy Council decided in 2003 to form a selection committee which would search for and assess new candidates for membership in a systematic manner beyond the individual initiative of the academy members. It is expected that this committee will bring changes to the existing regulations enabling it to take on the responsibility for selecting new members.

Establishing the norms of scientific merit and the search for ways of encouraging and rewarding scientists, should not be limited to the selection of new members. The Young Scientists Award Programme (GEBIP), which was set up in order to help create an authoritative generation of researchers and scientists who would carry our country's science forward in the next ten years, attempts to meet this aim. GEBIP is open to all young scientists under the age of 37 from all branches of science who have shown outstanding success in their field. At the end of a competitive process, young scientists are accepted in the programme and given scholarships for a three-year period to assist them in their work, their work is then followed carefully and they are encouraged to take part in and benefit from other activities organised by the Academy. The programme was set up in 2001 and there are currently 75 young scientists benefiting from it. It is envisaged that this programme will provide one of the major inputs for the academy's future development.

The "Fellowship Programme for Integrated Doctoral Studies in Turkey and/or Abroad" and the "The Fellowship Programme for Post-Doctoral Research Studies Abroad", in conjunction with other scholarship, support and award programmes in the social sciences and humanities, which have been in operation since the first years of the academy, are in parallel with programmes run by other organisations in the branches of science, health and engineering, and aim to make a more effective contribution to increase the research power required in the social sciences. Considering the widespread belief in our country that development means technological development, which has impeded the institutionalisation of social science funding until now, the Academy Council has begun looking for models to establish an infrastructure to provide funds for research in social sciences. These attempts have not had any success yet due to the differences of opinion and expectations on whether to set up a state body similar to the Scientific and Technical Research Council of Turkey (TÜBİTAK) for the social sciences.

The Academy has endeavoured during the past ten years to create a platform for social issues of importance and priority, to contribute to national policy from a science perspective, and to intervene in cultural issues in

an original and scholarly manner, as is the case in other academies of science. Over and above the funds allocated to it from the state budget, increasingly, these activities are being financed by external funds and within the framework of co-operations with public, non-governmental and international organisations. The contradictions and restrictions caused by being a state institution have become more preponderant when the Academy increased the number and the variety of its activities. The academy's tendency to voice opinions on certain issues from time to time, as a higher body of science, occasionally comes in conflict with political authority; this may be viewed as a contradiction in many circles, as a large proportion of its budget is provided by the state. In order to overcome these contradictions, it would appear to be crucial for the Academy to explore ways to make it financially less dependent on the state. Moreover, it is also worth opening discussions on making the necessary legal adjustments to enable it to become an autonomous, national non-governmental organisation, which is nevertheless partially supported by the state. In this vein, we may say that the Academy has, since its inception, indeed behaved like a non-governmental organisation by conducting its activities on a mostly voluntary basis.

The state has not yet been able to benefit sufficiently from its own national science academy which brings together a large proportion of the country's select scientists. Needless to say, this is due to the country's historical lack of such a higher body of science, and, therefore, to the lack of awareness of the basic function and role of an academy of sciences. Thus, the expectation of the members of the Academy that their knowledge would be of use in formulating institutional consultancy advice has not been realised. One of the Academy's consultancy roles has been to evaluate the performance of scientists and scientific organisations. However, this role should encompass on a more general level, defining policy towards science and education, and influencing political decisions on the basis of scientific knowledge. It is worth emphasising that the academies of sciences traditionally have a role to play in reforms of the education and higher education systems, which are currently on the political agenda in our country. The Academy has a responsibility to create a demand for its opinion regarding these issues, and the state has a responsibility to make use of the Academy's knowledge and experience.

Academies of science must bring scientific and ethical concerns to the fore when fulfilling their functions. It is clear that these concerns and a historical perspective should have the absolute priority in the way the Academy approaches day-to-day issues. Only in this way, can the Turkish Academy of Sciences retain its respectability and influence, and fulfil the historical role expected of it in restructuring the future of the country's science.

Science and the People

Prof. A. M. Celal Şengör
TÜBA Principal Member
[\(sengor@itu.edu.tr\)](mailto:sengor@itu.edu.tr)

In 1989 I was chatting in the Common Room at University College, Oxford, after having had dinner with the students (at the High Table where college staff and the guests eat) and pleurably sipping port and nibbling nuts in the fruit room. Somehow the topic came round to the origins of science. I began by stating that the concept of science as we know it today was created in the Ionian town of Milas by Thales and Anaximandros, and, while discussing the reasons for this, I continued by praising the level of rational thought that the people of Ionia had reached. Just as I was finishing what I was saying, would you believe it, someone who was sitting in the far corner of the dimly lit room, whose long gown was visible from the armchair he was buried in and but who appeared well respected despite not having opened his mouth before that point, said nonchalantly: 'My dear friend, the subject you are speaking about just happens to be my specialty. I can assure you that what you have been saying is utter nonsense.' This learned man then went on to explain the degree of ignorance and superstitions that the people of Ionia lived under at that time, and how the Persian invasion came about as a result of this ignorance, citing examples from ancient Ionian history and literature as he did so. He also explained that Thales and Anaximandros were members of a privileged minority and that they constituted a minority within that minority. This man, who was later to become my close friend, was no other than the great classical historian George Cockwell.

The People's Level of Knowledge had Never Increased Enough to Enable Them to Understand the Science of the Age

That evening I thought long and hard about what George Cockwell had said. Was it not true that Anaxagoras from Urla, friend of Perikles, was later exiled from democratic Athens after Perikles' death for defying the gods? Was it also not true that there were other men of dogma such as Socrates in democratic Athens, and that was not the great Plato, even the most vociferous opponents of whom had concurred that he was the greatest philosopher of all time, under the influence of Socrates? And what then became of democratic Athens? Did the views of Thales, Anaximandros, Herakleitos and Anaxagoras prevail or was Socrates the winner? What happened to the Great Library of Alexandria? Was it set on fire by accident during Caesar's attack on Egypt, did the priests destroy it, or did the Prophet Omar have it destroyed? Having been discussed for hundreds of years, when Roger S. Bagnall's documentary of the Library of Alexandria showed that its slow demise was due to years of society's neglect and ignorance, did the story not sound very familiar and commonplace to us all?

Why? Because at no time in history has the mass we call the people understood science. Every day American newspapers raise the issue of the amount of ignorance in America, a country we admire as the most advanced country of science. Even the President of America himself has no qualms about announcing on television that God 'saddled him with a duty'. There have been times and societies, however, when at least a noticeable section of society was interested in and attempted to follow science. In the middle of the 19th century scientist such as Charles Lyell and Charles Darwin were opening up new horizons and getting by on the money they made from selling science books. During the Age of Great Geographical Discoveries until almost the end of the 19th century, diaries of the journeys of scientific discovery were among the best selling books. Sven Hedin financed his famous journeys of discoveries partly through sales of his books. The 19th century was truly a century of science in Europe and America, or The Wonderful Century, as Alfred Wallace put it. However, the same century was one in which workers were mercilessly neglected, children were exploited like animals, a large proportion of the population of Europe was battling against poverty, and Africa and Asia were exploited in the most short-sighted manner.

Product of the 20th Century: Return from an Optimistic to a Pessimistic View of Science

Despite everything, the 19th century was one in which people were at least optimistic. The seeds of this optimism were sown during the enlightenment movement, which started in the 18th century. Just as Adam Smith's liberal economy was written from an optimistic perspective at the end of the 18th century, so were Karl Marx's political views in the middle of the 19th century works of a similarly optimistic belief, in spite of the violent implications they entailed. This optimism was based on a belief that sooner or later science would improve humanity's lot, and the people shared this belief whether or not they understood the reasons.

The 20th century saw the reversal of this view to a large extent due to the two world wars and the wars of independence of the old colonies. Those who took part in the two world wars witnessed the horrors of technology, the so-called child of science, not only at the front, but also in the cities and houses they lived in. Guernica, Rotterdam, Coventry, Hamburg and Dresden showed how it was possible for flying machines to turn cities into mass targets, while Hiroshima and Nagasaki showed how a whole city could be destroyed by one single bomb dropped from the same flying machines, and whose workings the people could not possibly understand.

Even left-wing activists, whose main aims until then had been to bring society within the boundaries drawn by science, began to doubt science in the face of this horror. In his Galilee, Brecht consciously aimed to make the audience feel sympathy for the enemies of science.

Science had begun to scare not only the people but intellectuals as well! During the last quarter of the 20th century an environmental left began to blossom at the side of the extreme left, as an expression that the people and even many learned people had developed the idea of 'protecting' people and the natural environment from science.

The independence of the colonies created a totally different problem; namely, that the people of these underdeveloped areas knew full well that their newly acquired equality had been granted to them by their previous masters as a result of new calculations. Independence gave them equality on paper, but it was obvious that the science, technology and the social balance based on hundreds of years of civilisation of their previous rulers were superior to their own traditional cultures. In order to overcome the inferiority complex that this brought with it, some people created a dream world in their heads, as children do, and thought that simply believing in it would make it real. The views of cultural relativism, whose roots go right back to the sociologists Sumner and Boaz, and their students Ruth Benedict and Margaret Mead, began to take root in numerous schools of sociology from Edinburgh to Frankfurt, and soon found a serious audience in the civilised world, particularly in the second half of the 20th century, thanks to the attempts to glorify black culture in the USA and Michel Foucault's views that science was actually a vehicle of power and that it was only used for this purpose. All the supporters of these views, who we can group together under the name 'academic left', began to defend in academic circles and to teach in universities that science was in fact no different from religion, magic, superstition or fortune-telling, that its authority was baseless, and that it was, therefore, dangerous and in need of being subject to political control. The optimistic view of science in the 19th century was thus replaced by a pessimistic view by the end of the 20th century. Was science really a monster that deserved such fears? Can the people really answer this question?

Escape Beyond the Mind

Not long after my conversation in Oxford I found myself in the longest street in Paris. As I was traveling from Charles de Gaulle airport in the car of my gynecologist friend Olivier Monod, son of the great biologist Jacques Monod, Nobel Prize winner for cracking the genetic code, to his flat in Montparnasse, we could see professional girls waiting outside the brothels on both sides of the road, while we were discussing the relations between science and the people, and science's loss of prestige in the eyes of the people. Olivier said that science used to be something that even a high school graduate could understand, but that it was no longer the case today, and that people could not understand science even if they wished, and that this frightened them. My broad-minded, cultured and philosophical friend continued, "Man is

afraid of uncertainty because of a characteristic handed to him by biological evolution. As he does not understand the language of science he does not know what it is. Even those who do understand the language of science fail to see an ultimate truth or unshakeable reality in science. This alone is enough to scare the wits out of people. In the old days when science was not yet such a part of our daily lives, when it did not threaten the lives of normal people, this was not so important. There were many people who found science strange along the lines of the pun that it is a 'strange and weird creature'. Sciences such as geology and biology still interested people, even though they shook religious beliefs. The models of dinosaurs placed in the Crystal Palace by Sir Richard Owen, the birds of paradise and strange creatures brought back from South East Asia by Wallace, and various types of simple experiments with electricity, formed the basis of pleasant conversation in many a home and even women's tea-time. These women took their children and babies to the Natural History Museums in London and Paris, enjoyed themselves immensely, talked about what they had seen at dinner parties, read books at home, and were able to discuss openly whether or not their ancestors were apes. Even Einstein's Theory of Relativity became famous among the people as a similar source of humour. This continued until Scrodinger tried to explain physics in a simplified manner to a barmaid and Watson, Crick and my father brought biology to the level that even the microscope could no longer see it. It is surely not possible to talk about the exploding of an atom bomb and the energy it releases with some mathematic acrobacy from an atom whose structure we cannot imagine, in the same way that we could about a dinosaur or bird of paradise. We may find the idea that we are descended from apes distasteful, but not as much as we find the fear generated by the explosion of a V2 rocket above our heads which we had not seen coming because it was traveling at more than the speed of sound. People are afraid because they see science as beyond their control, and, therefore, long for a return to a false paradise, and embrace religion and a whole host of nonsensical beliefs greater than they did before." Those who fall for such beliefs are unaware of how more dangerous, unforgiving and uncertain life in pre-science societies was compared with life in today's societies where civilisation is based on science.

The Only Way to Return to the Mind: Critically Rationalist Education

Olivier's words above are correct. There is only one form of treatment for the illness he diagnoses; education. The 20th century was the Century of the Common Man, after the name of a documentary. That man's main aim was to live a comfortable life and do what he wanted. The social order, that used to allocate fixed values to everyone, had gone. Everybody had the opportunity to become a Bill Gates, Michael Schumacher, Oprah Winfrey or even a Bill Clinton, and lived with this fantasy. These were wealthy

people and this wealth represented freedom. It is true that the computer technology at the heart of Bill Gates' fortune, the automobile technology that made Schumacher's speed possible, and the television technology that enabled Oprah Winfrey to reach millions, were beyond the understanding and knowledge of the common man who desired the freedom encapsulated in these people, but their wealth was not beyond him. It was not the dazzling technology at the heart of this wealth and the information that made this possible, but the wealth alone, and the above mentioned individuals were not members of noble families or kings whose roots were believed to be from the gods. Their wealth was their own doing. Bill Clinton rose from among the people to rule the greatest power in the world. As if that were not enough, this enabled him to earn millions from every conference he gave after relinquishing this power. Even his adventure with Monica, which everyone could understand (and sympathies with no doubt, since most people's sole passion in life is, as Bernard Shaw said, sex), could not prevent him benefiting from this.

The common man is in search of these benefits. He sees the amazing knowledge and technology on which they are based as a 'ready-made package', which can be bought. He believes in these technological wonders as something that will always be made by 'someone' and given to him, in the same way that he believes in a god that he has never seen and who he understands not the slightest thing about. Let us just take a look at underdeveloped cultures. In these countries roadsides and farmyards are full of abandoned broken-down vehicles, as the owners are devoid of both the knowledge and the habits to service or repair them.

What will an environment look like where the necessary 'someone's' who produce this knowledge and technology no longer exist? The type of world shown in the Mad Max films is currently foreign to the 'common man', and we can see that the increasing amount of ignorance has moved him a step closer to this type of world. Most of the time he is unable to notice this rise in ignorance, because he knows more than his father or his grandfather ever did. Because of the increasing speed of science, and since he does not follow the science of the day, he is unable to realise that he is further behind science than either his father or grandfather ever were, even though he does know more than they did.

The education of the 'common man' starts in the home, is given a certain discipline at school, and continues to different degrees throughout his life. The content and direction of this education is determined at home by the influence of parents and those close to the child, at school within the framework of the school's basic philosophy, and life-long by the society around him.

In the 20th century, no matter what might be written and said throughout the world to the contrary, the basic aim of education has to a large extent moved away from

the concept of creating critically thinking individuals. Television and cinemas have started appealing to society's primitive emotions rather its mind. The reason for this is very simple; surrendering to primitive emotions is easier than dealing with something as difficult as critical thinking. People prefer those that appeal to their primitive emotions; whether the stupid American television 'comedies', equally brainless films of violence, Hitler or Mr. Bush. For the majority of people it is clearly more attractive and easier to watch any of these rather than Gustav Grundgens' Faust or Shaw's Pygmalion, or to vote for politicians who tell them home truths. This easiness enables the 'common man' to choose products, whether 'cultural' or political, which have such a flavour. Schools are expected to lead to jobs, not to provide knowledge and understanding.

The Right to Remain Ignorant

The most important limitation to the rights democracy has granted to man, is the need to respect the rights of others. Without doubt the most important right is the right to live. Nobody should be able to take away someone else's right to live except in self- defense. After the right to live comes the right to safety. Everyone has the right to live as safely as they wish, provided they do not threaten anyone else's safety. We may sometimes invade another's zone of safety in order to protect our own safety (for example, by building motorways or railways for our own safe travel, we may limit the freedom of movement of those who live close by), but it is not possible, here, to identify as clear boundaries as it is with the right to live, instead mutual goodwill and understanding are necessary to designate boundaries. The third most important right is freedom of thought (the only reason for making this the third right is that the previous two protect the individual's life and health, and we clearly cannot talk about thought if there is no life or normal health). Two important sub-categories of freedom of thought are freedom of conscience and belief. What an individual thinks about the saying "Do as you would be done by" is related to his conscience, and whether or not he thinks Snow White and the Seven Dwarfs are real is related to his beliefs.

Ever since becoming man several million years ago, man has invented many tools and materials to make his life safer, protect the health of himself and his loved ones, to develop his modes of thought, and to put into practice what he wills. Some of these, such as clothing, cooking utensils and shelter, are so ingrained in us, that we rarely think of these as man's inventions. On the other hand, vehicles which enable us to move more easily, tools and machines which increase our strength, inventions which provide us with warmth and cool, all kinds of medicines we use every day, and many other things have undergone such a bewildering development, particularly in the past two centuries that, anyone with a little education and intelligence cannot help but stand in awe and amazement.

These discoveries and inventions belong to all mankind, and are indeed used by everyone.

The power and skills developed by man have enabled him to control a whole planet or even destroy it. The freedom, which democracy has brought to man in parallel with the development of this power, has the capacity to turn the world into a paradise, by using this power. This power to rule the world in this way was made possible by science and science alone. Trying to possess this power without knowledge of science would be akin to handing over the controls of a latest model passenger aircraft to a five-year-old child; in other words the results would be catastrophic for all concerned. Just as a plane cannot be trusted to a five-year-old child, neither should science and the technology it has created be in any way trusted to those who do not understand science.

In today's world science and the technology it has created is open to everyone, has invaded every single area of our life, and moulds and directs it. There is hardly any thing we do without using science and technology. The individuals or societies wishing to possess the right to live, the right to safety and the freedom of thought, are obliged to denounce the right to remain without science. Societies which teach their children at school things other than the most advanced science, and nations who prefer that their individuals live according to non-scientific ways of thinking, do not simply disappear from history, but endanger the well-being and welfare of all humanity, the latest and most horrifying example being witnessed half a century ago in the middle of Europe. We cannot be expected to turn a blind eye to this again!

What Role can the Turkish Academy of Sciences Play in Educating the People?

A people that chooses to remain ignorant will eventually drift away from the sovereignty of the mind and surrender to primitive emotions which do not require the control of the mind. The solution is in education, all forms of education, in order to open the way for the sovereignty of the mind. This is true for America, Turkey as well as for Bangladesh.

For this reason, great responsibility lies with an academy of sciences. Indeed, an academy of sciences, whose duty to provide a consultancy to those in power is defined by law, has the potential to draw up a comprehensive map of how to open the way for the mind. The existence of such a map which shows how society can be educated in a critically intelligent manner, could still be useful for people who realise that they have lost their way, at least it would provide an alternative guide for those who are lost. However, nobody can guarantee that such an alternative will be accepted at the end of the day.

As Jacques Monod says in his great work 'Chance and Necessity', we are as far as we know alone in the universe. The responsibility for our actions lies with us. The most important message science can give to the people, I think, is that this responsibility lies solely with us.

Purposes and Policies in Higher Education

Prof. Bozkurt Güvenç
TÜBA Honorary Member
(b-guvenç@superonline.com)

Higher education, in which sense? Whether as it is referred to in the Turkish *Constitution*, or 'Higher Education' as it stands in the title of this article? Education or training? With YÖK, or without? State or private? In Turkish or in a foreign language? Free or fee-paying? Open to all or selected few? Academy or vocational high schools? Autonomy or state-control? Uniform or diversified?

Each one of us may have different preferences, with similar reasons for different purposes. When we speak of aims in education, philosophy or philosophy of education comes to mind. What kind of citizens do we want to educate? Identical or varied? National or global? In other words, one philosophy or philosophies of education?

Such are the policy issues that have always been discussed, not only by ourselves, but by the whole world, from Platos's 'Philosophy of the Republic', and Aristotle's 'Politics' to the present day. There is an underlying premise at the heart of all these discussions, the validity and reliability of which are seldom questioned: If goals are known, and policies are implemented correctly, then pupils can be educated in the way we wish. Yet, even if the hypothesis that different purposes and policies can produce different people were true, is it necessarily true that a national goal and principles will produce similar or identical individuals?

Constitution of the Turkish Republic - Article 130

"The state will establish *universities*, with corporate body status and academic autonomy, made up of various departments, which will publish journals and provide consultancy, carry out academic research, serve humanity and the country, and provide education at various levels from secondary school upwards, with the aim of educating manpower suitable for the needs of the nation, and in an educational system based on modern principles and practices. In accordance with the principles and regulations outlined in the law, under the supervision of the state, non-profit higher educational institutions may be founded by private foundations. Rectors are to be appointed by the President of the Republic, while deans, nominated by Rectors, will be appointed by the Council of Higher Education."

While the Article 131 further states

"The Council of Higher Education is to be founded with the purposes of planning, organising and supervising higher educational institutions, guiding the education and academic research activities of such institutions, ensuring that they are set up in accordance with the aims

and principles outlined in the law and that the funds set aside for them are used effectively, for planning the training and education of youth."

Specific sections of the *Constitution* concerning Higher Education also regulate the following:

a) Conceptual issues of university versus the higher education i.e. education and/or training;

b) The State's function and responsibility as founder and supervisor, is delegated to the Council of Higher Education (Article 131);

c) The Council (YÖK) will consist of several members nominated by universities, the Cabinet and the Office of the Chief of Staff, and appointed by the President of the Republic, and members directly appointed by the President himself.

d) Rectors are appointed by the President, while Deans nominated by Rectors are appointed by the Council of Higher Education (YÖK).

e) The nature of the organisation, function, authority, responsibility and mode of operation of the Council of Higher Education is prescribed by law. In short, paragraph 131 of the Constitution grants the Council of Higher Education (YÖK) the authority, function and responsibility (for new policies), to provide manpower according to the needs of the society and the country.

It is precisely for this reason that YÖK and YÖK Chairmen have been subject to severe criticism; because, the relevant sections of the Constitution have not been amended, the problems have grown worse, and changes made in the law and in regulations have proven insufficient. When the government drafted an amendment in order to have a voice in higher education policy, several institutions and individuals decided to defend the YÖK. Even if consensus is eventually reached within a reasonable time span between the legislative, executive, judiciary and the President, regarding YÖK and the draft amendments, it appears that the purposes and policies of higher education will continue to dominate the national agenda. Why?

'The truest guide in life is science!' –

(Atatürk- proclaimed in, 1936)

The word 'guide in life' (*mürşit*) is used here to mean a guide which shows the right or the safe path ahead. Careful analysis may reveal why the superlative 'truest' is used here rather than the 'only true'. There may, in fact, be several guides in life. In Turkish vocabulary and idioms we find expressions such as "*mürşid-i a'zam*" (The greatest guide Prophet Mohammed), "*Mürşid-i dānā*" (very wiseman, "*Mürşid-i Rūm*" (The Poet Mevlāna). Atatürk, as the moving spirit of the Turkish Revolution, held that science was the guiding light that would carry the country to the level of contemporary civilisation,

while accepting the existence of alternative guiding lights. If that is the case for guiding lights, then is it not possible that 'truth' can take different forms? Even if it were beyond the scope of this article, this is the most fundamental question in philosophical ontology (the science of existence). Folk literature with its proverbs and the dialectical nature of the famous expressions, can be cited as a witness to this reality, for they tend to change the moral (lesson) in every telling.

Preeminence of Scientific Truths

The system based on the principles of 'modern education' as outlined in the *Constitution*, is founded according to 'scientific information and truths'. Just as scientific datum is not always the most correct and true (valid and reliable), some non-scientific facts are not necessarily wrong or useless. The relative superiority and preeminence of scientific facts are in their method. Facts which are produced by means of trial and error, may also be examined or checked by the same means and techniques.

Whereas traditional mores are not questioned by the society, scientific explanation and truths are based on temporary or tentative hypotheses. The mathematician Poincaré had called our attention to this delicate question in his *Science and Hypothesis*.

Administration and Supervision:

Religion and State

Before to the age of science which began with the *natural history* (Descartian analytic thought and Bacon's observation), principles of education were based on beliefs and *scholastic* teaching. The famous philosopher of the Nizamiye Madrasah, Imam Gazali, proclaimed that 'the mind must not fall foul of beliefs'. The term 'scholastic' brings to mind schools, teachers, students and teaching based on religious canons. In the 18th century while scientific thought and research broke away from the oppression and influence of the churches and moved towards the age of enlightenment, new regional and national states were formed from crumbling empires and which became the sponsors of these new schools.

Secularism and Laïcisme

The separation of state and religion, along with the superiority of mind over beliefs and primacy of state over religion, took place in the 19th and 20th centuries after the French revolution. Protestants revolted against the Vatican to form their own state and national churches. The principle of *laïcisme* in the Catholic lands paved the way to citizenship in societies lacking human rights. Thus were born modern nations.

Being opened and closed down several times in the 19th century, and only founded permanently in 1900 is, *Darülfünun* (Abode of Science) was exempted from restrictions of the *Educational Unification Law* in 1924 and turned into a university after the People's Republican Party accepted the principle of laïcisme in the party

by-laws. It was no coincidence that the concept of laïcisme found its way into the *Constitution* (1937) after the 1933 University Reform, and that the *Autonomous University Law* No 4936 finally came into effect in 1945. The Republic which was moving towards democracy, defined its relations with universities within the principle of autonomy. Universities were to receive support from public funds, but the state was not to interfere in their academic affairs and functions, except for financial supervision and inspection.

The democratic 'Spirit of 1946' movement refused to accept that positive science should be independent of religious bounds, and beyond the sanctions of political will. The democratic revolution set out a second (Islamic) path in open contradiction of the *Educational Unification Law*, and attempted to limit scientific autonomy and practiced political patronage in the governance of higher education.

Structural Problems

In the last 20 years we seem to have forgotten programmes which reflect the aims and policies of higher educational institutions; preferring instead to busy ourselves with the appointments of YÖK President and Rectors. Has the Council of Higher Education (YÖK), with its 20 members appointed by a corporate state ideology, been able to develop educational programmes, without any contribution of tens of thousands of faculty and without the support of students body? Has it been able to come up with common solutions for the problems of the purposes and policies of hundreds or the ID card of institutions? It is this issue, not the personality of the YÖK President, that is facing the Turkish higher education today.

What Should Be the Goal of Universities?

Prof. Mithat Idemen
TÜBA Principal Member
(idemen@ISIKUN.edu.tr)

The term “University”, which is expressed by very similar words in almost all around the world, has a history that goes back thousand five hundred years, to the time of the Roman Civilization, where religion and religion-based law were accepted as the most respected sciences. If we leave the etymology of the word aside, and only consider its connotations for us today, the starting point of the term “University” dates back two thousand years, to the old Hellenistic civilization in Aegean Region, when arithmetic, geometry and philosophy were regarded as respected sciences. During this long period, the evolution of the institution, which we refer to as “University”, was caused, like many other things, by the revolutionary developments in science, technology and philosophy on the one hand, and by revolutionary social changes caused by great internal conflicts on the other hand. I have no intention of summarizing or discussing this evolution that occurred in different ways in different societies, because I do not believe this will be of value at a time when an historical confrontation is taking place in our country. Just as those who, with the power of their swords, used to rule society as they wished, today those who have collected an adequate number of votes in a so-called democratic manner think they can rule society as they wish, and at the same time it seems as if they can present a new university to the society in the way they wish. For this reason, I would like to tell you about my ideal university; if this is an unachievable ideal, then I would like to talk about what is achievable.

My ideal university is a romantic environment that exists side by side with institutes of higher learning not unlike community college in the US. There “science is done for science’s sake, and art for art’s sake”. University is an universal environment where passionate people of different ages think freely and produce ideas in order to understand nature, to improve society’s standards of living and ability to enjoy life, without any authoritarian pressure and being obliged to respond to the question “What is its utility?” Evaluations are not limited to a time or region, but are on an international scale, with universal dimensions. Here young people firstly learn the rules for thinking rationally and the knowledge according to these rules, under the guidance of the scientists who started before them and have proven themselves by their extreme passions and praise-worthy work. Then, according to the route they have chosen for their lives, they either stay there to do research or they go to a ‘community college’ as teachers to spread their knowledge to society or to industrial or similar sort of environment in order to turn their knowledge into production. Thus, the things produced in a university where “science is done for

science’s sake, and art for art’s sake”, become products useful for the society beyond the university. Undoubtedly, those who work either at a ‘community college’ or in industry, may, when they feel the need, ask for short-term or long-term scientific support from those who remain at university, as may all state institutions or the army. But the university never does the jobs to be performed by its graduates or compete with them in order to earn money. The rivals and peers of the university are the other universities spread all around the world; its main purpose is to watch the things done in those universities and to give high level support for the development of science at international extent. In this way, the university takes on the role of a locomotive for society. The university knows its subject better than anybody else. If it functions at a universal level, other institutions of the society will, of course, feel no need and will not dare to interfere with it.

People in my ideal university acquire a “natural” respect according to the value of their original ideas on a universal scale. Beyond the natural respect acquired in this way, it is out of the question to make the university accept the pressure of an “authority”. The university designates on its own the committees (executive council, senate, etc.) that will direct the work and evaluate its conclusions, and the managers (rectors, deans, department heads etc.) who will represent it at different levels, by considering the “respect” mentioned earlier. It does this without giving secret sacrifices to charlatans or bowing to threats, and therefore feels proud to be represented by the managers it has chosen.

The main duty of the ‘community college’ that stands side by side with the university is to educate people who have acquired skills in certain subjects to the level required by the society. The number, kind and internal design of these are planned by political authority. Here, in addition to those educated in the university, others can also teach. What is taught can be varied and of a “national quality” according to the country and time.

The current situation of institutions called ‘universities’ in our country and throughout the world is, in fact, a mixture of my ideal university and institution of higher education. This naturally results in various problems and occasionally interference in universities by political authority. This is because the actual universities are forced to maintain and manage at the same time and together, with the same degree of respect, those who are extremely passionate about rational thought and discussing (and questioning) everything in detail within a framework of scientific ethics, and those who believe in dogmas and (with their limited skills) repeat these all during their lives without ever feeling the need to discuss their ramifications. For example, what have ‘Faculties of Theology’ (which hand down dogmas from generation to

generation without ever discussing them) got to do with the concept of university? Is it just because people in a particular region consider these as sacred? Would it not be better if these issues were analysed at a universal level by discussing and comparing them in different departments (i.e. history, sociology, etc) in different social science faculties, and if the details of the sacred rules of certain religions were taught in special community colleges? In a similar manner, higher education institutions which produce violinists, pianists, singers and sportsmen/women should be outside the framework of universities. This would remove an important proportion of the problems which universities, in particular Turkish universities, face unnecessarily, such as whether the publications in different branches are of international quality, or whether the degrees conferred are at international standards. There are discussions in daily newspapers of the potential harm to our country that can be caused by those who have somehow become associate professors or even professors without the ability to think rationally, and who use these titles to work as consultants to the government or experts for the courts. These are the result of the unhealthy fusion of university and 'community college'.

I would expect that those who are aware that the term 'university' derived from the 'universitas', of the Roman Empire in the 2nd-4th centuries, that were law schools based on religion, will strongly disagree with my thoughts on Faculties of Theology. I would like to respond with the following two questions;

(a) Of those who graduated from the Faculties of Theology in Europe and carried out research, has there ever been anyone who was an atheist or who found Islam or Judaism to be superior to Christianity? If everyone who studies in and graduates from these faculties ends up agreeing with what his father taught him and disagreeing with the rest, then what purpose do they have other than as community colleges?

(b) What could possibly have been taught in these schools fifteen hundred years ago other than religion, when the branches of science that form the main focus of today's universities, such as physics, chemistry, biology, geology, astrophysics, pharmacology, etc, and the applied branches such as engineering and medicine, did not then exist? Is it not natural that curricula change according to developments in science?

Today, given the position we have reached, we need to look at the facts and take precautions rather than dream as I have done. In doing so, we must, unfortunately, reach a compromise with the 'vote-gatherers' who have the political power, and with those in our universities who should not be there. This is the most difficult aspect. In the near future, I believe that we will have to resist the new proposed changes related to the areas below, if we do not wish to see our universities become completely 'national' institutions, or to be more precise, 'national

community colleges' where some scientists and academics only occasionally produce quality ideas:

(a) Universities, which need to be in close contact with the rest of the world, should choose their own lecturers, and academic administrators who will represent them, from within their own ranks bearing in mind their level of scientific respect and authority. Governments which can continually change and which sometimes have limited voter support across the whole country should not have the power to influence such appointments.

(b) Universities, and in particular relevant academics, should be left to choose their young research assistants, who have the potential to develop quickly by working together with a respected academic into someone recognised in world science circles. Otherwise scientific or psychological incompatibility may negatively affect the productivity of the academic as well as the young person's development.

(c) The degrees conferred by universities and their publications do not stay within the country's borders, they travel all over the world. University lecturers frequently come together at international conferences. In order not to harm the country's reputation, the holders of the diplomas carrying the names of our universities and the authors of these articles must be of good quality, and the publications must be of an internationally accepted standard. This is only possible when the degrees conferred on lecturers meet internationally accepted criteria. For example, juries (or committees), which meet to confer a degree, should be made up of academics that have gained respect for the universally accepted quality of their publications in that field. Excuses should not be made to leave the stage to those having complex of inferiority.

(d) Because of budgetary constraints state universities in this country have always faced great difficulties, which have prevented them from carrying out the research they have planned, and discouraged talented young people from becoming scientists and academics. Private universities can be very beneficial in some areas because of their financial resources and the flexibility in the law. Therefore, private universities should be exempted from the control of the state and other institutions (i.e. YÖK) wherever possible, apart from the strict monitoring of academic standards. The free competition between state universities and private universities, supported by a small number of citizens (parents and sponsors) will in the long term result in an increase in the quality of all universities. This race is already observable.

The university I have always dreamed about but which I have never seen realized, will probably always remain a dream for everyone. But at least let there be some in our country, which slightly resemble this, just as there are in developed countries.

Diversity for the Universities

Prof. Şevket Pamuk
TÜBA Principal Member
(pamuk@boun.edu.tr)

This edition of *Diary* deals with the question “What should the aim of University be?” I would like to comment on this topic as well as on discussions about the new draft amendment, which has recently dominated the agenda related to higher education [in Turkey].

Perhaps it is not very difficult to define the aim or aims of the university at a certain level. A lot of people argue that there are three basic aims or functions of today’s university.

(a) Education: Information and knowledge can be transmitted to new generations in higher education in various ways. In higher education institutions subject area knowledge can be given or mostly basic knowledge and basic methods can be taught. Thus, it will be easier for graduates to follow developments regarding the changing conditions, and to gain new information throughout their lives. Therefore, there is a vast area ahead of higher education institutions. Every institution needs to make preferences and identify sub-areas for itself.

(b) Research: Creation of new information. Here, there is a vast area in terms of both topic and approach. For example, an institution may focus on basic knowledge or applied topics during research. In addition, because of its speciality, resources and staffing, every university is not obliged to carry out research.

(c) Service to Community, Society: Sharing and dispersing the information among society. Regarding this aim many activities can be considered. For instance in education; lifelong education programmes can be given to those above school age. In terms of research, new information can be gathered and transmitted to society by cooperating with industry, non-governmental organisations (NGOs) and state institutions.

When these three aims are considered overall, we can see that universities are institutions which produce information and disperse it among society, and also provide the flow of information from one generation to the next. In order to ensure that the process of producing and transmitting information does not serve one single purpose, and to ensure that it does not get stuck within a particular mode, universities have to be not only practical or useful but also critical at the same time, and they have to provide new models and visions. Therefore, it is crucial for them to be independent, especially in academic subjects, and that they become places of free thought.

What has been said so far may be generally accepted. However, we should not forget that each of the areas related to the three aims of university, which I mentioned

above, are very vast. It is impossible for every educational institution and every university to cover all of these areas. It is also not essential for every higher education institution to achieve all of these three aims. Each institution needs to define a certain field within this vast area according to its own background, resources and speciality and should carefully choose the activities it wishes to be involved in. This is what is referred to as the “mission” of the institution.

At this point I would like to focus on the discussions about the Higher Education Law (this would in my opinion be a better heading), which has been at the top of the agenda for the last year. Discussions about the Higher Education Law have deliberately ignored the possibility that there may be differences between higher education institutions. Instead, the aim has to create a law which lumps all the institutions together around their lowest common denominator. In the last two years, as those who follow the process of law amendments know well, neither the government, nor politicians nor academic administrators appear enthusiastic about supporting an approach which accepts these differences and specialties, or about giving more responsibility and freedom to higher education institutions. The state bureaucrats are already accustomed to banning and restricting bad practice, grouping all the institutions together and putting them all in the same basket. It is obvious that the government’s higher education agenda goes no further than the supervision of higher education institutions, the transfer from vocational schools to higher education, and who will elect whom and how the rectors will be chosen. Above all, there is no vision for the whole system of higher education. Most of the university rectors prefer to protect today’s status quo rather than to move towards a new model.

In Turkey, the discussions about the Higher Education Law will certainly continue after this draft law. Sooner or later, it will become necessary to accept the plurality and differences between higher education institutions and to regard diversity as the main principle of a law. However, we may have to wait a long time before we reach such a stage. Until then, we may have to live and struggle with a law reflecting the mentality and national conditions of an era thirty years in the past.

Universities in This Day and Age

Prof. Ersin Yurtsever
TÜBA Principal Member
(eyurtsev@ku.edu.tr)

When we look at Turkey's recent history we see that higher education has been administered by various completely different laws, but that, despite this, nobody is happy with the situation. The main reason for this is that everyone has in mind a different model for universities and their function. Therefore, no single law, which not amended in line with changing circumstances, can possibly satisfy anyone. We may categorise the function of universities under three headings; creating knowledge (R&D), imparting knowledge (education), and service to society. One factor, which differentiates universities, is the relative importance given to these three functions. This is, in fact, the real reason why it is difficult to gather all universities under a single law.

In this article I wish to discuss the factors that need to be taken into consideration when identifying the relative weighting of the three functions of universities, and the extent to which the changes of the time influence this weighting. Not unexpectedly, I shall endeavour to convey to the reader the university model that I have in mind.

At least it is clear that universities' vision and mission statements cannot be divorced from the country's conditions. We might list these conditions as follows;

(a) In the near future there will be 3-4 million students taking the university entrance examination (ÖSS). We cannot ignore the political pressure exerted by this figure or the influence of the examination system over students.

(b) A large proportion of students are placed in universities and departments they do not particularly prefer, and this creates motivational problems.

(c) It is estimated that there are somewhere in the region of 40-50.000 students paying for their education abroad.

(d) Many universities have a serious problem recruiting lecturers because of economic problems. The brain drain is continuing to a large extent.

(e) The desire or need to carry out research is a relatively new concept, which is not yet completely established in Turkish Universities. The number of lecturers doing quality research is inadequate.

(f) Industry does not expect to benefit much from universities, and is reluctant to take part in long-term quality projects.

(g) Society has little or no expectations from universities other than education.

In addition to this, there are various effects brought about by globalism. The strengthening of the European Union and the rise in the number of student exchange

programmes have led to an increase in students' ability to choose sponsors and exchange programmes. In Germany 10.000 students take part in exchange programmes with other countries. In industry the need for R&D has greatly increased due to the rise in international competition. The law only enables the state to provide support for R&D activities. This means that universities need to assume important roles. Because of international computer networks and the fact that any form of information can be accessed easily, students can follow the latest developments and see universities' deficiencies. Moreover web-based learning provides very different and interesting possibilities in certain fields.

When we consider all these conditions, it can be seen that there should be a different *raison-d'être* for each and every university. Therefore, organisations and their aims can be categorised as follows;

(a) Mass education: in order to raise the average cultural level of society, and to produce an intermediate workforce;

(b) Elite education: the education of leaders and those who can make important contributions in their field (this is sometimes misinterpreted as meaning the education of elite individuals. It is the education, not the people, who are elite);

(c) Regional: for general educational purposes, but with the main aim of specialisation according to local conditions;

(d) Technological: cooperation with industry, solving technological problems.

A university may, of course, fall into more than one category. The important thing is to analyse the conditions well and to make a healthy decision about the aims. It is not possible for universities to not adapt themselves to the changes of the age. As an example, let us consider the points that a university, which aims to give an elite education and which is closest to the founding aims of TUBA, must bear in mind.

There are two absolute preconditions of high-level education; good lecturers and good students. Although financial support is crucial, it cannot guarantee the above two conditions. If we were to ask what has changed in the last 20 years concerning the recruitment of lecturers, we may give the following answers;

(a) Because of the effects of economic conditions, the value placed by society on an academic career has decreased, and this has brought with it a drop in the quality of those entering the field.

(b) Industry, and in particular international industry, has caused an increase in the need for highly educated individuals, and this has increased the competitive power of those who have had such an education.

(c) The composition of university lecturers in the West has changed, as universities have changed from national to international establishments. This means that good lecturers can find a wider range of job possibilities.

(d) The old tradition of a university educating its own students and keeping them as university lecturers has gradually disappeared starting from the USA, on the grounds that this could lead to erroneous practices.

We might add other points to this list, but it is clear how important it is for a university, which wishes to maintain its profile, to reform itself according to the changing conditions. Let us start with the precondition of good students. Recent years have seen the following changes;

(a) Because of the increase in student numbers and the system of crammers and examinations, students entering high profile departments (1) know exam techniques rather than how to learn, (2) form a group who are particularly weak in science and mathematics, and (3) who have come from a highly stressful environment. In order to win these students over we need to make important changes to the teaching system.

(b) The days are over when university graduates enter a field and stay there throughout their lives. People who are flexible enough to change fields and who can work comfortably in a multi-cultural environment are more successful. This means that curricula need to be continually evaluated, revised and adapted according to conditions.

(c) It is now much easier to study in good universities abroad. There are more scholarship opportunities, and these schools make more effort to attract students from other countries. In short we can say that education has become largely globalised.

The draft amendment laws that have been drawn up and the accompanying discussions have tended to focus more on a vicious circle of simple issues such as the election-appointment question, and the use and monitoring of funds, rather than focusing on trying to create a structure that would enable universities to benefit from and adapt to the changing conditions. The trend in the world today, however, is for universities to become more and more independent and for them to enter into serious competition with one another. Universities should possess the necessary structure to influence these conditions rather than simply fit current conditions. At the very least, universities, who have assumed the role of producing a new generation which can help the country to advance, should be equipped with the authority to identify their own aims and to make the necessary changes to achieve them.

Should Mankind have a Common Conscience?*

Prof. Yücel Kanpolat

TÜBA Academy Council Member
(kanpolat@ada.net.tr)

Prof. Dinçer Ülkü

TÜBA Academy Council Member
(dulku@hacettepe.edu.tr)

Prof. Metin Balci

TÜBA Principal Member
(mbalci@metu.edu.tr)

It touches scientists' pride to talk of the century we live in as the Information Age. Indeed mankind has never before experienced an age where science and information develop so fast and where informational knowledge is shared so easily.

Within this heavy flow of information, today's media, which is controlled mainly by national and international companies and capital, largely controls, directs and influences the way public opinion views current affairs and events. Organisations, which might counter these influences and give a different point of view, are not yet sufficiently developed. Are there any information technologists from among this richness of science and information who can influence public opinion?

When the Academy of Sciences of Afghanistan made a plea to all science academies and governments of the world, the Turkish Academy of Sciences remembered, in line with the above question, their responsibility to be sensitive towards the universal problems of mankind, and decided to send three volunteer members to Afghanistan. During our three days there, we experienced things, which were very different from what we knew and thought. We felt great sadness, as scientists and more importantly as human beings, at what people had suffered, what we saw, and what had not been done. We consider it our duty to share our thoughts with the world's scientific community in this short article.

Witch's Cauldron

Afghanistan has had a strong feudal structure throughout its history, and is situated in an area we might call the gateway to Central Asia. Many countries have cast aspirations and made demands of Afghanistan because of their desire to control the country and, as a result, Central Asia. The balance of power began to change in the 1960s. Firstly the Shah of Iran planned to increase his influence over the country by means of a railway project that would reach as far as the border with Tadzikistan. Later Russia began to help restructure Afghanistan by means of military aid, and began to influence the government. Russia's influence over Afghanistan turned into an

invasion at the time of the Babrak Karmal governments. After Russia's withdrawal in 1985, the struggle for power between

certain groups led to a civil war, which lasted for 23 years and destroyed the whole of the country. In 1995 the fanatical Taliban, supported by America and trained by Pakistan, gained control over the whole country. After the tragedy of September 11th, 2001, America, who had previously supported the Taliban against the Soviets, now liberated Afghanistan from the Taliban.

The Afghan Issue managed to occupy Western public opinion, particularly after the September 11th tragedy, through the global information system. However, the emergence of the Iraq issue diverted the attention of the international powers to the Middle East, and the Afghan Issue was relegated to the bottom of the agenda and became forgotten.

The Afghanistan Problem

So what then is the Afghan Issue? It is hard to answer this question without seeing Afghanistan. 85 percent of the country is in a state of ruin and destruction. Most of the basic infrastructures, such as irrigation, water supplies, roads and electricity have been destroyed. It would be easier to rebuild the country from scratch rather than repair it. What is more, Afghanistan is not a rich country in terms of natural resources. Even in its best days, it was not self-sufficient. The opium trade, which was once the country's most important source of income with \$ 1.1 billion, has dried up. In Kabul 36.000 families, out of a total population of two million, live on the streets; 60.000 children are orphaned; and 50.000 children represent their family's only source of income. The aid provided by the United Nations and certain countries for education and health are not enough to rectify the situation. Afghanistan is in 169th place out of 171 countries in terms of health services. The level of suffering and hopelessness of the people and children is beyond a normal person's comprehension.

Unfortunately this tragic picture is no longer a major concern for world public opinion. We are of the opinion that there should be a universal conscience that notices such a picture and cares about it. This has not been achieved by religious organisations, politicians or the media. We believe that it is the responsibility and duty of scientists and academics to publicise the Afghan and other such tragedies to humanity, which is why we volunteered to go to Afghanistan on behalf of the Turkish Academy of Sciences. What pushed us to go was more our humanistic approach than our identity as scientists, because we are of the view that being a human being carries with it certain responsibilities.

Awareness of Responsibility

Being a human being means not living alone in our own small world, but considering the existence and values of our species more vital than maintaining our own

welfare and protecting them. The way to continue our existence should not be to benefit from the destruction of others. We would like to ask, not as individuals, but from the perspective of the societies of developed or underdeveloped countries who benefit from the wonders of the information, in some cases post-industrial, society we live in: Is it possible that mankind has not developed his character or conscience at all in the last thousands of years, despite all the incredible suffering throughout history and despite all the scientific and technological developments? Or do we still live with the system of selfishness and basic instincts of primitive societies? We find it difficult to answer these questions.

How can we help our species and people living in countries such as Afghanistan, Ethiopia, Rwanda and many others?

The way to approach these questions is to form international solidarity groups of people from different countries. We believe that scientists and academics should take the lead and should create feasible solutions, which bring people's attention to the tragedies faced by humanity in numerous countries.

* We would like to thank the editors of *Focus* magazine and authors for permission to reproduce this article which first appeared in the April 2004 issue of the '*Focus Popüler Bilim ve Kültür*' (*Focus Popular Science and Culture*) journal.

Project for Human Rights in School Textbooks

Prof. Dr. Ayşe Erzan
TÜBA Academy Council Member
(erzan@itu.edu.tr)

At the suggestion of the National Committee for the United Nations Decade on Human Rights Education, in 2001 the Turkish Academy of Sciences launched the Project for Human Rights in School Textbooks, together with the History Foundation, in cooperation with the Human Rights Foundation of Turkey, and with the financial support of the European Community and of the Open Society Institute. One hundred and ninety textbooks from both the elementary school and lycee levels were studied, with the help of close to three hundred volunteers. The three books, which resulted from two years' work, were presented to the public and the education community at meetings held on the 9-10 December 2003 at the Istanbul Technical University and the Turkish Grand National Assembly. These books, entitled *Human Rights in School Textbooks: Survey Results*,¹ *Towards School Textbooks Respectful of Human Rights*,² and *Towards a Human Rights Friendly Educational Environment*,³ proceeded from an evaluation of the current text books to focusing the attention of curriculum builders, textbook authors, and of teachers, on the interconnections between human rights, educational philosophy and educational practices.

The intellectually most challenging stage of the Project for Human Rights in School Textbooks was laying down the conceptual framework of the research, within a multidisciplinary approach encompassing literature, philosophy, law, political sciences, sociology and education. One of the basic points of departure was the assumption that a modern democratic society, to which we refer as the "Information Society," grounded on science, technology and communications, and linked to modes of production and political structure, is predicated upon individuals who can think critically, who are able to perceive their environment in concrete realistic terms, and who are able to reason in terms of cause-and-effect relationships. What emerged from the textbook survey was that, an *essentialist* philosophical tendency and an authoritarian educational approach, bolstered by a highly normative discourse, formed the intellectual and behavioural backdrop of the human rights problems encountered in the textbooks.

Essentialist approaches ignore social and historical processes and attempt to explain social reality on the basis of immutable attributes which various human communities are assumed to possess from time immemorial; they foster, to a large degree, authoritarian individuals devoid of flexibility and the ability to find common ground with others, who are closed to

experimentation and exploration, and whose foremost fear is open situations which pose uncertainty. Essentialism forms the philosophical underpinning of racist and ethnic-nationalist attitudes, which underlie political conservatism and disregard for human rights. Essentialist approaches condition students to an unscientific mode of discourse, and damage their grip on reality.

It is to be expected that school textbooks aim, as vehicles of socialization, to create certain common types of thought and behaviour. However, instead of helping students acquire careful thinking habits, the current practice consists of a didactic approach based upon the "learning" of "correct opinions." Propositions heavily charged with normative values, or those conveying articles of belief, are frequently formulated as if they were objective statements of fact, thus impairing the students' ability to differentiate between objective and normative expressions.

A scientific approach requires that information is supported by either empirical evidence or logical argument. In school textbooks, however, attempts are often made to justify ideas by reference to higher authority, rather than by rational means, and as a result it becomes impossible for students to either follow the logical steps leading to these conclusions, or to see themselves contributing to such a process.

The main aims of human rights education, as outlined in the Action Plan of the United Nations Decade for Human Rights Education, and also adopted by Turkey, are to "strengthen the respect for human rights and basic freedoms, to improve and develop democracy, social justice, solidarity and friendship between individuals and nations, to further active citizenship, and to create a culture of peace based on universal human rights." Today there is an extraordinary consensus, common will and determination in Turkey to join the European Union, coexist in peace with its neighbours, and to minimize social tensions. This determination, and the perceptiveness that it brings with it, cannot be said to have found resonance in the school textbooks surveyed between 2002 and 2003. The survey found that many attitudes prejudicial to the establishment of a culture of peace, such as a national identity constructed on a constant notion of external threat, or the identification of eternal "friends" or "foes," persisted in the textbooks. This picture is in direct conflict with the goal of educating individuals who think of themselves progressively as European and world citizens, who are able to recognize differences of opinion or other diversity as assets rather than as threats, and who try to solve conflicts through mutual understanding and consensus.

In addition to this, there was very little space devoted in the school textbooks to the history and geography of countries other than Turkey. Rather than instilling respect for, and interest in, different cultures and mankind's common cultural heritage, the books lead too often to the direct or indirect glorification of "national values," which are implied to belong solely to "us." Clearly, such an approach is completely inadequate for building a world identity and a culture of peace. Moreover, the way in which "we," i.e., a common identity, is evoked in the school textbooks, is alien to both the concept of "citizenship" devoid of ethnic overtones, as enshrined in the constitution, and to a civic consciousness based on gender, denominational and ethnic equality. Our school textbooks are, therefore, in need of a fundamental improvement.

We are indebted to the following for their invaluable contributions to the Project for Human Rights in School Textbooks, at all the different stages of the drawing up of the survey criteria, of the authoritative interpretation, in the light of the international findings on the subject, of the results of the research work, and finally their publication in book form: Assoc. Prof. Sevda Alankuş, Dr. Ayşe Gül Altınay, Dr. Recep Boztemur, Bülent Akdağ (lecturer), Assoc. Prof. Gökçen Alpkaya, Dr. Tüten Anđ, Sedat Aslantaş (lawyer), Dr. Melike Türkan Bağlı, Dr. Yasemin Hümanur, Esen Bağlı, Tanıl Bora, Prof. Ayşe Buğra, Dr. Kenan Çayır, Dr. Deniz Ceylan, Prof. Betül Çotuksöken, Prof. Zeynep Davran, Dr. Tufan Erhürman, Prof. Semih Gemalmaz, Prof. Fatma Gök, Assoc. Prof. Müfit Gömlüksiz, Assoc. Prof. Adnan Gümüş, Prof. İpek Gürkaynak, Assoc. Prof. Murat Güvenç, Prof. Gürol Irzık, Dr. Tülay Kabadere, Dilara Kahyaođlu (lecturer), Dr. Ferda Keskin, Prof. Ioanna Kuçuradi, Mutlu Öztürk (lecturer), Prof. Jale Parla, Orhan Silier, Dr. Alper Şahin, Dr. Hülya Uğur Tanrıöver, Prof. İlhan Tekeli, Dr. Şebnem Timur and Prof. Füsün Üstel.

1. B. Çotuksöken, A. Erzan, O. Silier (ed.), *Ders Kitaplarında İnsan Hakları-Tarama Sonuçları* (Tarih Vakfı, İstanbul, 2003).

2. M. T. Bağlı, Y. H. Esen (ed.), *İnsan Haklarına Saygılı Ders Kitapları İçin* (Tarih Vakfı, İstanbul, 2003).

3. F. Gök, A. Şahin, *İnsan Haklarına Dost Bir Eğitim Ortamına Doğru* (Tarih Vakfı, İstanbul, 2003).

Some Early TÜBA's Announcements

Freedom of Thought (16 December 1994)

"Freedom of thought refers to a person's free access to knowledge and thought, and their ability to freely express and defend their thoughts and opinions. Freedom of thought has been given priority over other freedoms due to its crucial role in grasping and realising other freedoms. In western thought, any doctrine is accepted and allowed to be discussed even if it conflicts with the accepted values of society. Therefore, freedom of thought is only restricted where there are justified reasons for this. According to custom and practice in most western countries, attention is paid to whether thoughts represent an open or indirect threat. In other words, the expression of a thought in abstract terms should be accepted within the framework of freedom of thought."

Universities and Freedom of Thought (17 July 1995)

"Universities, which represent the essential, elite and elitist characteristics of a civilisation, have three basic duties; namely, to create original knowledge and thought, to spread this knowledge among society, and to play a consultative role at the highest level where necessary concerning social issues. The most important points of departure are the creation of original knowledge and thought, not being satisfied and questioning. This forms the basis of universities' elite and elitist characteristics. Modern developed countries, to which we currently and historically aspire to, possess such universities."

Scientific Thought (24 January 1996)

"Scientific thought consists of questioning, seeking the truth, expression and discussion. This approach is essential for any just, civilised, intelligent and creative society. Scientific thought should be the most basic value for all social life, just as it is for science and culture. The state based on the rule of law, to which we all adhere, is only possible with respect for scientific thought and truth."

University Autonomy (29 May 1996)

"The main aim of universities is to carry out scientific research, and to develop enlightened individuals who have the ability for independent and creative thought, who research and question, and who possess the knowledge and skills that will benefit society and all mankind. Such an education system is only possible in academic, administrative and financially autonomous higher education institutions which encourage and support the creation of science."

Higher Education and Creative Thought (1 June 1996)

“The main aim of higher education is to produce enlightened individuals who have the ability for independent and creative thought, who research and question, and who possess the knowledge and skills that will benefit themselves, society and all mankind. Such education is only possible in academic, administrative and financially autonomous higher education institutions, which carry out research, create knowledge, contribute to the development of technology, and which encourage and support research and the creation of science. Higher education establishments create ideas and solutions regarding important national and global issues, in addition to their educatory functions. They should not have to ask for such a function. Indeed, it should be expected that higher education establishments are the first to identify such problems.”

Scientific Autonomy and Scientific Thought (28 August 1996)

“Scientific institutions have a duty to establish scientific thought in our country, develop research activities in all branches of science, produce and support scientists, and to develop and implement policies towards science that enable Turkey to find its rightful place among civilised nations. These institutions should show the way forward for our country, and need to make efforts not to be influenced by political instability, and to avoid concerns about political and individual opportunism when carrying out their work.”

The Republic and Intelligence (22 October 1996)

“The basic foundation of all social establishments, including education, science and law, is to be intelligent; also the main foundation of the secular Republic. Critical intelligence does not mean solely making use of technological gains as much as possible in order to attain a comfortable standard of living, and is thus often misunderstood as a result. Intelligence is the basis of justice and individual self-respect. Modern civilisation is built on these concepts.”

“Evolution” Theory (17 September 1998)

“I do not leave any verse, any dogma or any frozen or fossilised rule as a spiritual inheritance. What I leave behind is science and intelligence.” Mustafa Kemal Atatürk

“Science is the most successful means developed by man to observe, understand through experiments, and explain the environment and universe he lives in. For centuries scientists have defended the superiority of human intelligence, and man’s ability to find truth, against dogma and prejudice, by refusing to bow to pressure and obstructions. Science in today’s world is the most important and most trusted means for human

civilisation to control the environment, and for societies to reach perfection and happiness. By its very nature, science works by means of free thought and provable hypotheses, which this creates. Scientific truths are only accepted by the international scientific community after many years of trying to prove a hypothesis by different independent methods and after subsequent free discussion. Science has successfully passed this merciless test, and opinions, which explain many events at once, and which enable new hypotheses to be proven, have earned the right to carry the name of scientific theory. The most important factor separating science, which is a system of thinking that enables us to understand the existence of a universe beyond our own, from dogmatic belief systems has always been the ability to discuss freely, and for even the most successfully thought theories to be able to be replaced by even more advanced ones.”

Ethics and Responsibility in Science (25 November 1999)

“Scientific thought consists of searching for the truth, questioning, discussing and expressing oneself. This approach is absolutely essential for society to be both effectively organised as well as honest and civilised. Scientific thought is the most basic value for the whole of social life, as well as for science and culture. The modern society for which we all crave can only be formed through scientific truth and respect for truth. However, science and freedom of speech should not be misused to mislead or misinform public opinion. Science continually questions results it has come up with, changes these if necessary, and never makes pronouncements or predictions about issues it has not yet solved. This constant puts great responsibility on the shoulders of science and those involved in science. Scientists’ responsibility to inform, enlighten and warn the public about the importance of living with the environment is constrained by available scientific data, results and scientific ethical principles. It is dangerous for scientists to discuss conflicts regarding their own work and experiments in the public eye, as this may lead to public lack of confidence in science and scientists. Scientists should be particularly sensitive on this issue, as erroneous individual behaviour may otherwise prevent science becoming established in society, and reduce the public’s respect towards science and scientists. In order to maintain a sensitive balance between scientific freedom and scientific responsibility, scientists are ethically bound to continually pay particular care to this.”

TÜBA's International Relations

Bilateral Agreements

A Protocol on Scientific Collaboration was also signed with the Austrian Academy of Sciences.

TÜBA signed two new protocols of Scientific Cooperation with foreign Academies in the year 2001, these are the ones with the Hungarian and the Albanian Academies of Sciences.

In the year 2002 an Agreement for Scientific Collaboration and Executive Protocol were signed with the Israel Academy of Sciences and Humanities and the Romanian Academy. Also a Memorandum of Understanding (MOU) was signed with the National Academy of Science and Technology of Philippines.

In 2003, an Agreement for Scientific Collaboration and Executive Protocol was signed with the National Academy of Sciences of Azerbaijan. Also, a MOU and Executive Protocol was signed with the Korean Academy of Science and Technology (KAST) in 2003.

International Memberships

TÜBA has been accepted as member to different regional and international organizations in which she plays an active role, contributing to the activities of these organizations. TÜBA is the member of the following organizations:

- All European Academies (ALLEA)
- Network of the Academies of Mediterranean Countries
- Third World Network of Scholarly Organizations (TWNISO)
- International Human Rights Network of Academies and Scholarly Societies and its Executive Committee (until the end of 2005).
- InterAcademy Panel (IAP)
- Association of Academies of Sciences in Asia (AASA) and its Board
- International Social Science Council (ISSC) and its Executive Committee.

Other

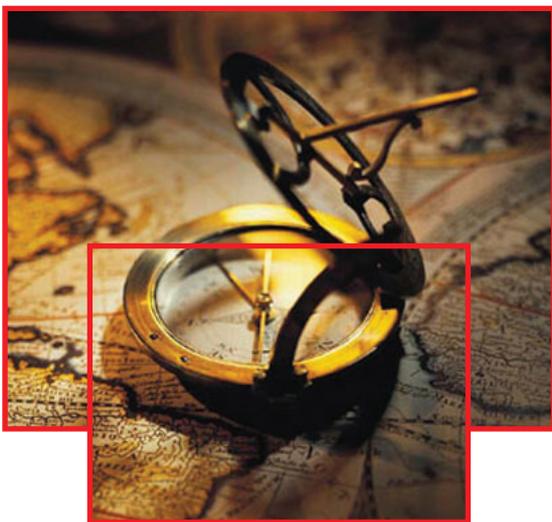
TÜBA has a representative in:

- The European Science Foundation's (ESF) Standing Committees for Social Sciences and Humanities
- InterAcademy Medical Panel (IAMP) Executive Board
- ALLEA Standing Committee on 'Science and Ethics' (observer status).

TÜBA- The Antecedents

“In 1845 a commission was created at the Porte [the Ottoman government] to reorganize the entire educational system. In 1847 a Ministry of Education was created. This was an attempt to wrest education from the exclusive grip of the ulema, who had controlled it at the primary and secondary level to that date....One of the decisions of the commission was to found an Ottoman university. This proved more difficult than had been anticipated. Thus efforts were concentrated on the founding of institutions, which would help break the ground for the university. One of these was the Imperial Academy of Arts and Sciences (Encümen-i Daniş), inaugurated in 1850.... One of the immediate tasks of the academy was to be the preparation of texts to be used in the Ottoman university.... That more was meant by the creation of the Ottoman Academy of Arts and Sciences than the mere preparation of texts, and that there was envisaged an Encyclopedist movement having as its goal the simplification of the Ottoman language and the spreading of knowledge, is clear from the introduction to the statutes of the academy. These statutes declared, in most refined Ottoman, that in the past ‘... most writers limited their ambition to making a show of eloquence and vying with each other for the palms of success; they lived only to over embellish their style with ornamentation and did not go beyond various types of poetry and rhetoric’. Consequently the pearls, which had been previously retrieved from the ocean of science, remained hidden in the shells of an abstract terminology and ideas were enveloped in the veil of subtleties. Similar to the virginal betrothed they could not make their face seen to the gaze of all. Such writings, as may well be imagined, were accessible only to the intelligence of the cultivated minds, the lower classes eliciting no profit from them. Yet it is well known that the salutary goal of general civilization can only be reached by the prior diffusion of diverse kinds of knowledge. Consequently, while encouraging the production of purely literary works aiming to entertain men of discrimination, insistence is [hereby] placed on the drafting of scientific and technological books written in a single style and fitted to the needs of popular intelligence so as to provide the means of widening and completing its instruction.”

From Şerif Mardin, *The Genesis of Young Ottoman Thought: A Study in the Modernization of Turkish Political Ideas* (Princeton: Princeton University Press, 1962), pp. 225-227.



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