## The Rise and Fall of Science and Technology in Global Cooperation.
### *An Eye-witness Report*

## A contribution to the 80th Birthday of Mirceo Malitza

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[1] A more elaborated version of this paper has been published under the title « Sixty years of UN and UNESCO. Science and Technology in global cooperation : the case of the United Nations and UNESCO, in : Science and Public Policy, Vol. 33, number 9, November 2006, Beech Tree Publishing, Guildford, Surrey GU1 2EP, England

## (I) A personal note from Mircea Malitza
**Former Chairman of the UNCSTD Working Group « Science and Technology and the Future »**
Bucharest, January 2007

»I was part of the preparation committee in the previous years and I attended to UN sessions in New York. The atmosphere was not very constructive. The delegates of the developing countries cherished the topics of the "New International Economic Order (NIEO)", wouldn't stop criticizing the developed world and advanced unreal demands. I remember a backstage talk between and Dutch and a Brazilian. The former was telling to the latter "you want free and massive technology transfer. But we do not have all that wealth. You have oil, are you willing to give it to us for free?" . The NIEO had created its own militant ideology and the delegates of the so-called « Group of 77 « were influenced by it. It is not that I didn't agree with, although, as member of the Group of 77, Romania supported NIEO theses; I didn't agree with them following declarations, codes of behavior, loud resolutions, while ignoring the practical aspect of possible actions and projects. I saw, for instance, a possible large scale UN campaign leading to the establishment of vocational schools and industrial and technical high schools in the Third World, as an introduction of the societies to the contemporary civilization. I also saw how little understood one central issue of the conference was: research/development as a solution to the economic take-off. Few understood that. Nevertheless, later on, the four 'Asian dragons' took the step towards a developed and prosperous economy, based on the magic formula of R&D plus foreign investments.

Following the contact with the international organizations present at the conference, I saw how much little the Club of Rome programs programms and intentions were known. Thus, UNESCO neglected the scientific dimension of its vocation, focusing on the diversity of cultures and their capacity to secure the identity of the new states. Which was good, on the other hand, but not very relevant to the vital and urgent development problems.

I believe another chance was missed. During the Carter administration, the American diplomacy was quite receptive and welcomed the requests of the Group of 77 with an understanding that disappeared with the  arrival of the Reagan administration. The chance of concrete actions, based on partnership, was wasted at that point. The lack of flexibility and the ideological ardor specific to many Latin-Americans I knew was not a good influence.

I presided the Committee for the future of the Conference (the fourth, set up at the Vienna session), which reached a consensus document with less difficulty than the other three committees. The Cold War was in full swing. The two superpowers were not happy with the indefinite future of the Third World (capitalism or socialism was their clear vision), but a more inspired diplomacy of the latter would have forced them to cooperate in projects for which the UN was the most appropriate platform. »

## (II) A personal note from the Author
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Berlin, Januar 2007

The preparations of the United Nations Conference on Science and Technology for Development (UNCSTD), held in Vienna on 20-31 August 1979 have involved primarily diplomats from all  142 countries which attended the Vienna Conference as well as other government representatives. In

addition there were also representatives form the scientific community all over the world. One of them was Professor Mircea Malitza. When we met in New York for the first time, he was in charge of a working group consisting of experts from all regions of the world commissioned to prepare a background report for UNCSTD with the title **« Science and Technology and the Future ».** This item was the only one on the UNCSTD agenda which was 'non-politicial' and therefore not controversial. As it turned out, it had no influence on the direction which UNCSTD finally went. Mircea Malitza and his collegues shared therefore the fate on an other equally futile attempt of the conference preparations, i.e. the organisation by the United Nations Advisory Committee on the Application of Science and Technology for Development (ACAST) of a International Colloquium **« Science, Technology and Society – Needs, Challenges and Limitations »** for which in my capacity as at that time UN Director for Science and Technology I was responsible.

My 'Livre d'Or' of my apartment high in the sky overlooking the Central Park in New York, testifies that Mircea together with other eminent scientists form various parts in the world was more than once my guest. We exchanged thoughts on the best way how to introduce some independant expert thinking into a highly politicised and rather emotional process which characterised from the outset the UNCSTD preparations and its follow-up.

Even when we failed in our efforts at that time, both of us can be proud in saying : At least we were not fatalictic, but in the contrary we have tried to stand up against a movement which we knew, it was bound to fail. Unfortunately it took many more years to reach the same conclusion. The job, how to introduce scientific expert advice into the world's diplomatic arena continues to be done.

I have asked Mircea to write down a few notes of his own memoirs on the events which lay more than a quarter of a century behind us. There is no better introduction into my own following analysis on the role of science and technology in world affairs than the text written by my good friend and collegue Mircea Malitza.

On the occasion of his 80th birthday I would like to pay tribute to his contribution to the collective efforts of the world scientific and technological community.

Happy birthday, my friend Mircea! Ad multos annos!

# 1. Introduction

The history of Science and Technology in the United Nations is at the same time the history of the broader issue of multilateral efforts to introduce Science and Technology on the global agenda. It reflects also the numerous systematic efforts of the world's scientific community to have an impact on the priority setting of programmes in the intergovernmental system which are ultimately determined by representatives of governments, i.e. by officials from ministries in member states and by diplomats accredited to the headquarters of international agencies.

On the intergovernmental level, the creation of the League of Nations (SDN) in 1919 created a permanent platform for governments _inter alia_ for the discussion of common problems in the field of science. In 1922 the Intellectual Co-operation Organisation, to a certain extent the predecessor of UNESCO, was created.

The terms "Science" and "Technology" are not explicitly used in the Charter of the United Nations. Article 13 of the Charter refers only to 'international cooperation in the _economic, social, cultural, educational, and health fields'._ Article 57 referring to the relationship between the UN and the specialised agencies, adds to this listing of subjects the term "_related fields"_ under which "Science and Technology" may find its place.

These interpretations of the mandates of the UN and of the multitude of specialised agencies within the UN system on the field of science and technology reveal quite some extent misunderstandings and may explain some of the rivalries which have occurred from time to time within the international system.

By and large, the 'UN proper' and the specialised agencies, all being intergovernmental organisations, have the same membership. And yet, the United Nations, if only by the composition of the Permanent Missions accredited to the UN, is much more 'politically' oriented, even the nationality of higher officials and their belonging to a given group of countries has a higher impact on their professional credibility than in the more technically oriented specialised agencies.

UNESCO, is proud to be known as the 'Intellectual Organisation' of the UN system, and to be 'the conscience' of the UN system. " *'UNESCO's general mission…is to promote the development of scientific knowledge, because it has an intrinsic value'…. 'UNESCO is,* in fact, the only *organisation in the UN system whose mandate includes* basic science.*'* "[2]

This singular role gives indeed UNESCO an important mandate which is not contested by any other agency. In the case of technology things are different. There is a strong field of agencies, such as ILO, UNIDO, UNCTAD, UNCTC as well as the World Bank and the Regional Development Banks, which have technology issues and technology policy as part of their work programmes. Unlike the time when the UN and most of the specialised agencies, including UNESCO, were created, 'Science' – though still has a value of its own – seems to have been gradually replaced by 'Technology' as a political factor in the North-South relations: "….*technology is a primary source of national power and diplomatic influence.*"[3] [4] 'Science', however, is increasingly regarded as a 'Global Good', and is seen as part of the common heritage of mankind.[5] UNESCO/ICSU at the World Science Conference in Budapest: "*Countries that have the necessary expertise should promote the sharing and transfer of knowledge*"[6]

The years following the first UN World Conference on Science and Technology, a joint UN- system exercise, held in Geneva in 1963 (see chapter 3.3), have led, on request of ECOSOC to ACAST, to the preparations of an UN-system-wide comprehensive 'Master Plan', i.e. a *"programme of international co-operation in science and technology in which the developed and developing countries could join in a drive on problems of importance for the developing countries*" (GA resolutions 1944 (XVIII) and 2318 (XXII) and ECOSOC resolutions 1083 (XXXIX) and 1155 (XLI).

In responding to this request, ACAST has presented in 1971 its "World Plan of Action for the Application of Science and Technology to Development"[7] The Plan had been prepared with the assistance of many organizations of the United Nations system, in particular with support from UNESCO (see chapter 3.2 below). But since the request was made to ACAST to prepare such a World Plan and its presentation in 1971 to ECOSOC, with the increasing bargaining power of the 'Group of 77', which traces its

[2] UNESCO, Why the "S"?, op.cit. p.7

[3] U.S. House of Representatives, Subcommittee on International Security and Scientific Affairs, Science, Technology, and Diplomacy in the Age of Interdependence, U.S. Government Printing Office, Washington D.C. 1976, p.94

[4] "…Without establishing a dichotomy between science and technology, it is evident that technology policy rather than science policy commands the attention of planners, policy formulaters, budget officers and decision makers in the great majority of countries…". UNESCO, Advisory Panel on Science, Technology and Society, "Science, Technology and Society: Interactions" (Working Document), 19-22 May 1981, p.37

[5] Stiglitz, Joseph, "Knowledge As a Global Public Good", 1999, in: Kaul, Inge et al. (editors), Global Public Goods – International Cooperation in the 21st Century, New York-Oxford 1979, p.312
  Science: Public Good or commercial commodity? in: UNESCO COURIER, No. 5/1999

[6] UNESCO/ICSU, World Science Conference, Science Agenda – Framework for Action, Budapest 1999

[7] World Plan of Action for the Application of Science and Technology to Development", New York 1971

roots way back to the first session of UNCTAD in 1964, the political climate at the UN has fundamentally changed.[8]

It was felt by the majority of UN member states, i.e. by the 'Group of 77', that the issue of Science and Technology should not be left anymore to the initiative of a rather independent expert body, such as ACAST, which had the prerogative of reporting directly to ECOSOC to provide policy advice and to make recommendations. Therefore, in the same year, i.e.1971, an intergovernmental Committee, the "Committee for Science and Technology on Development (CSTD)", a sub-Committee of ECOSOC, was created. ACAST places originally great hopes in the establishment of CSTD. Previously the Council had found some difficulty in dealing with questions relating to Science and Technology. It was hoped, though in vain, that the CSTD would include more delegates qualified to form a judgement on these questions and, that being composed of government representatives, it would be able to assist the Council to reach, more readily, decisions on ACAST's proposals for action.

CSTD has decided not to follow suit to the proposed 'World Plan'. The World Plan of Action, carefully prepared during almost five years by UN-ACAST in close cooperation with the specialised agencies, was shelved.[9]

Instead, with special reference to the "Declaration and the Programme of Action on the Establishment of a New International Economic Order" (GA resolutions 3201 and 3202 of 1st May 1974), it was decided that a special intergovernmental conference should be convened, allowing all member states, in particular the developing countries, to elaborate on the main objectives of the North-South cooperation on Science and Technology for Development.(ECOSOC resolution 2028 (LXI). ACAST – in cooperation with the specialised agencies - has prepared a considered statement of its views on the nature, purpose and organisation of the conference (E/C.8/WG.1/4). ACAST supported strongly the need to involve governments, the specialised agencies and representatives of the scientific community in the preparations for this conference.

When, in January 1977, Secretary-General for the UN Conference on Science and Technology for Development (UNCSTD), was appointed, he made it clear from the outset that a new spirit – away from expert advice and from agency expertise – would govern the UNCSTD preparations:

 *"We must avoid bypassing Governments "from above" ("great international technological decisions", "extra-national organizations", unappealable judgements of wise men or magicians, international bureaucracies). "[10]* Hidden in this - for a high UN official – rather unusual language was his personal conviction that the impact of ACAST and the scientific community at large ('*wise men and magicians')* as well as the role of the specialised agencies *('international bureaucracies*') would henceforth differ from any of the other UN conference preparations.

The Conference Secretary-General has deviced instead the so-called "Ascending Process" for UNCSTD, a sort of worldwide referendum, in which each member state would define its own STD priorities. "Governments and Governments alone" should thus influence the UNCSTD preparations. The Conference Secretary-General, a

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[8] Sauvant, Karl, The Group of 77 – Evolution, Structure, Organization, Oceana Publications, New York 1981

[9] Although ECOSOC did not formally adopt ACAST's proposals for the implementation of the World Plan, some specialised agencies, for example WHO, UNESCO, UNEP and others have initiated actions in line with the World Plan.

[10] United Nations, ECOSOC, Committee on Science and Technology, 1st special session, 75th meeting, Press Release, Committee opens first session of preparations for Science Conference, TEC/303, 31. January 1977, Summary of the Statement made by Mr. Joao da Costa

career diplomat from Brezil, was fully aware of the risks which he took when steering his proclaimed course into action. He admitted privately, that if the case UNCSTD would become a failure, "*for the next 25 years it would be impossible for anyone to re-introduce again the issue of Science and Technology on the UN agenda*". In a retrospective in 2005, it is obvious, this vision has proved to be correct: Since this statement made on 31 January 1977 at the first PrepCom session of UNCSTD, the various components of the UN system on science and technology were never seen again on a joint major mission under leadership of the UN.

## 2. The organisational structures on Science and Technology in the UN

During the first two decades after the United Nations were brought into existence, there were no formalised structures at the UN secretariat in charge of issues concerning Science and Technology. They were dealt with by the UN Department for Economic and Social Affairs which acted among other functions as Secretariat of ECOSOC. As a result of the first UN Conference on Science and Technology (Geneva 1963) institutional arrangements for the coordination of the activities of the United Nations system in Science and Technology were created which were valid until 1993:

- An inter-agency coordinating machinery
- An advisory body and
- A Secretariat

to which, eight years later, in 1971,

- an intergovernmental organ was added.

However, it must be stressed from the outset of this historical overview that, for a number of reasons as from the mid-90s of the last century, all these bodies which had a direct impact on science and technology issues the UN system as a whole, became *de facto* defunct

Science and Technology has evidently not anymore the same degree of priority it used to have for the United Nations during its first 50 years.

But let us go back to the origins:

### 2.1 The period between UNCSAT (1963) and UNCSTD (1979)

The United Nations Office for Science and Technology (OST) was created in 1964. It was the permanent Secretariat of all UN committees dealing with science and technology issues and provided a focal point for continuing secretariat support of the organization's role in this area:

- **the Scientific Advisory Committee (SAC) of the Secretary-General**
  This Committee was created by the General Assembly (GA resolution 8103 (IX) of 1954 and 1344 (XIII) of 1958 to advise and assist the Secretary-General at his request on all matters relating to the peaceful uses of atomic energy with which the United Nations might be concerned. Subsequently the scope of the SAC broadened to include other aspects of science.
  The seven members of the Committee – all nuclear physicists – were appointed by the General Assembly. SAC members were from the following

countries: Brazil, Canada, France, India, USSR, United Kingdom and United States.

The Committee has met when convened by the Secretary-General.

It was at the recommendation of SAC that the first "United Nations Conference on the Application of Science and Technology  for the Less Developed Areas" was convened (Geneva 1963).

- **the United Nations Advisory Committee on the Application of Science and Technology to Development (ACAST)**

The Advisory Committee was established by ECOSOC resolution 980 A (XXXVI) of August 1, 1963 following the United Nations Conference on the Application of Science and Technology  for the Less Developed Areas (UNCSAT)" held in Geneva, February 1963. The Council had decided that ACAST should consist of 18 members (later 24), to be appointed on the nomination of the Secretary-General, after consultation with governments. During the sixteen years of its existence 71 individuals (men only, not a single woman), including Presidents of Academies of Sciences, Nobel Prize Winners, Cabinet Ministers, have served at the  Advisory Committee.

The Advisory Committee had a formidable mandate:

  (1) it was to keep under review progress in the application of science and technology and propose to ECOSOC measures for such application for the benefit of developing countries

  (2) it was to review  the scientific and technological programmes and activities of the United Nations and its specialised agencies, and propose to the Council measures for their improvement, including the establishment of priorities and the elimination of duplication.

  (3) It was to consider specific questions  referred to it by the Council, or by the Secretary-General or by the Executive heads of the specialised agencies. The working relations between ACAST and the specialised agencies were cordial and so close that, UNESCO, for example had refrained from setting-up its own Advisory Committee[11] until ACAST in its original form  ceased to exist in 1980 as a result of a number of far-reaching institutional changes after the second UN World Conference (UNCSTD) held in August 1979 in Vienna.

  (4) To these terms of reference must be added any other tasks assigned to the Advisory Committee by the General Assembly.[12]

ACAST has, in addition to its plenary sessions, operated in regional groups and in this capacity has closely co-operated with the Regional Economic Commissions of the UN.

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[11] The first meeting of the newly-established Advisory Panel to  UNESCO on' Science, Technology and Society', which included some of the former ACAST members, took place in Paris on 19-21. May 1981.
The UNESCO-Director Fédérico Mayor has set up an International Scientific Advisory  Board (ISAB), chaired by the ICSU President Werner Arber.  ISAB has held its first session in Paris on 20-21 January 1997
[12] United Nations Office for Science and Technology,  Standke, Klaus-Heinrich (Editor), Science and Technology and Global Problems : The United Nations Advisory Committee on the Application of Science and Technology for Development, Pergamon Press, New York-Oxford 1979, p.2

- **The Administrative Sub-Committee on Coordination (ACC) Subcommittee on Science and Technology**

  The ACC Sub-Committee was established in 1963, following the Geneva Conference to ensure 'positive interagency co-operation in the field of science and technology'.

  The Sub-Committee's purpose, was basically, to provide a forum for continuing inter-agency consultation and to act as a source of advice to the ACC on matters related to science and technology, particularly in relation to development, which involve the secretariats of the organizations of the United Nations system.(cf. document COORDINATION/R.1014, para.56) The Sub-Committee reported through the Preparatory Committee to the ACC, composed by the Executive Heads of the specialised agencies and chaired by the Secretary-General. The membership of the Sub-Committee was open to all interested agencies. The Director of the OST acted ex-officio as Chairman.

- **the United Nations Committee on Science and Technology for Development (CSTD)**

  The Committee was created by ECOSOC resolution 1621 (LI) of 30 July 1971 as an intergovernmental committee to provide policy guidance and make recommendations to ECOSOC on matters relating to the application of science and technology to development. This body was composed of 54 member-states, elected by the Council in accordance with the geographical distribution of seats in the Council itself. In 1977 CSTD met as a preparatory committee for the 2nd UN Conference on Science and Technology for Development (E/C.8/L.57)

In addition to its secretariat functions serving the four above-mentioned committees, the OST had the following functions:

a.) to collect, maintain up to date and disseminate information on the activities of the various components of the United Nation system in the field of science and technology; identify gaps and duplications in these activities; delineate the grounds for a co-operation between the specialised agencies or other organs within the system, and help bring them together on common tasks.

b.) to ensure substantive co-ordination of multisectoral or inter-agency studies, through the mechanism of the ACC Sub-Committee for Science and Technology.

c.) to follow the activities of the United Nations system in the field of science and technology with a view to their harmonization and their possible integration within a United Nations general policy for science and technology.

d.) to examine and emphasize, where appropriate, the relationship between activities of the United Nations system in science and technology, and activities carried out by the system in other fields.

e.) to keep abreast of the developments, trends and progress in science and technology and their applications to development; in this framework, suggest, initiate, or when appropriate undertake special studies of an exploratory nature, in consultation with the relevant substantive divisions or agencies, and present adequate recommendations concerning their follow-up within the system.

f.) to review, appraise and support the implementation of the World and Regional Plans of Action for the Application of Science and Technology to Development, and assist the regional commissions in this regard.

g.) to play an advisory role within the United Nations Secretariat, on all matters relating to science and technology; to maintain permanent links with the scientific     and technological community, and with the various governmental and non-governmental institutions dealing with science and  technology.[13]

During the preparatory period of UNCSTD (1977-1979) the CSTD – open to all member states - has served as preparatory committee of the conference. The ACC Sub-Committee for Science and Technology has served as Interagency Task Force for the coordination of inputs of the specialised agencies for UNCSTD. The conference secretariat consisted of staff members recruited for the occasion – in addition to OST staff and staff members seconded from the specialised agencies (UNESCO: C. Nones Sucre).

## 2.2 The period after UNCSTD (1980-1992)

As a consequence of the new institutional arrangements for the science and technology 'machinery' within the UN system, the  infrastructure created after UNCSAT, outlined in Chapter 2.1,      was abolished in accordance with recommendations made at UNCSTD (GA resolution 34/218 of 19.12.1979):

They were replaced – with a modified new terms of references - by:
− The UN Intergovernmental Committee on Science and Technology for Development (IGCSTD), a committee 'open to all member states' reporting *through* ECOSOC to the General Assembly
− The UN Advisory Committee on Science and Technology for Development (ACSTD)
− The Interagency Task Force on Science and Technology
− The UN Centre for Science and Technology for Development (UNCSTD) to be headed by a high-official (ASG) from a developing country, reporting not anymore to the USG-DIESA but directly to the Director-General for Development and International Economic Co-operation
− In addition, a special secretariat unit was created within UNDP for the administration of the Interim Fund on Science and Technology for Development.

The new organisational machinery, was almost exclusively geared towards the implementation of the 'Vienna Programme of Action'[14] in which the specialised agencies had only a marginal role to play. From the outset, Member states, in particular those from the developed countries, were critical on the usefulness of the new secretariat arrangements.
At that time, the political interest on the VPA appeared to be on the priority setting for the utilisation and distribution of the new funds which were expected as the major outcome of the Vienna conference: An 'Interim Fund' for the years 1980-1981, which should mobilise at least 250 mill.US-$, followed by a long-term "Financing System' in the order of magnitude of annually 1 or even 2 billion US-$.

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[13] Source : Job Description of the Director of the UN Office for Science and Technology (OST) and Terms of Reference of the OST, Interoffice Memorandum by Gabriel van Laethem, Under-Secretary for Economic and Social Affairs, New York, 6.1.1976

[14] United Nations, The Vienna Programme of Action on Science and Technology for Development, New York 1979

## 2.3 The period since 1993 and the present institutional situation

During the post-UNCSTD decade it became gradually evident that the "Vienna Programme of Action", in particular as far as the Financing System was concerned, would not materialise.
The expected new funds did finally not mobilise more than some 25-30 Mill.$.[15]

As a consequence, the UN has practically abolished its entire machinery on science and technology built-up at headquarters in New York[16] which has served the UN system for some 40 years. Although judging from the formal UN structure, one might get the impression that with some modifications the basic structure on Science and Technology has not been harmed, in reality the visibility which science and technology enjoyed at the UN in New York since UNSAT in 1963 has disappeared. The delegation of the complex issues of Science and Technology to UNCTAD in Geneva, at a time in which for example the European Commission and the OECD are giving even higher priority to such issues, is difficult to explain.
The UN Fund for Science and Technology has already much earlier ceased to exist as a special entity within UNDP.
Officially this bold decision was a consequence of the GA resolution 46/235 of 13 April 1992 on 'restructuring and revitalization of the United Nations in the economic, social and related fields'. The ACC Sub-Committee for Science and Technology (respectively the Interagency-Task Force created for that purpose) in charge of inter-agency coordination was abolished as part of the transformation of the former ACC into the CEB (Chief Executive Board for Coordination).
In its decision 1992/218 of 30 April 1992, ECOSOC established the 'Commission on Science and Technology for Development' as successor to the Intergovernmental Committee on Science and Technology for Development' and its subsidiary body, the Advisory Committee on Science and Technology for Development (ACSTD, formerly ACAST). The terms of reference from 1992 continue to refer to the VPA of 1979.
It is an organisational innovation that an Intergovernmental Committee, as the new Commission on Science and Technology for Development, acts simultaneously as its own Advisory Committee.
The Commission was established "*to provide the General Assembly and ECOSOC with high-level expert advice on relevant issues through analysis and appropriate policy recommendations or options in order to enable those organs to guide the future work of the United Nations, develop common policies and agree on appropriate action*".
Whereas at UNCSTD, it was seen as one of the great achievements of the conference that the newly established Intergovernmental Committee (IGCSTD) was not confined to the membership of 54 of ECOSOC, but open to all member states, the new Commission, which reports <u>to</u> ECOSOC (and not anymore <u>through</u> the

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[15] FAO in a letter to the UN on 16.2.1979 had assumed half a year before UNCSTD: "It seems doubtful whether the Conference will lead to any significant increase at all in resources available to the system for substantive activities in which science and technology are important components…".

[16] In the early nineties, the Economic Commission for Europe of the United Nations (ECE) abolished its Committee for Senior Advisors on Science and Technology Policy Issues, which was the only Committee during the 'Cold War' in which the industrialised countries from East and West met to discuss SC&T issues of common concern.

Council directly to the GA), is much smaller in size: It has only 33 members, i.e. 22 less than ECOSOC itself.

Functionally, the Commission is not attached anymore to the UN in New York, but instead to UNCTAD in Geneva. Since July 1993 it meets in Geneva and is being serviced by UNCTAD's Investment, Enterprise Development and Technology Division (earlier: Division for Science and Technology). The Commission meets for its regular sessions annually for a period of one week (ECOSOC resolution 2002/37 reaffirmed in ECOSOC resolution 2003/31 of 4. 6. 2003)

The Commission has a similar far reaching mandate as the earlier CSTD (1971-1979):

It is seen by ECOSOC "as a '*global forum*'
- for the examination of science and technology questions and their implications for development,
- the advancement of understanding on science and technology policy issues, particularly in respect of developing countries
- for the formulation of recommendations and guidelines on science and technology matters within the United Nations system,

all in relation to development" (ECOSOC Res.1995/4).

Taking into account the staff situation and in view of the modest budget resources available, it will be difficult for the Commission to live up to the expectations which its ambitious mandate suggests.

As in earlier years in the context of the International Development Decades and the International Development Strategy, the General Assembly of the UN has proclaimed that science and technology are critical elements in meeting the development goals contained in the United Nations Millenium Declaration of 2000. The Seventh Session of the ECOSOC Commission on Science and Technology for Development (Geneva, 24-28.4.2004) has recommended international and national policies that should be pursued to ensure that science and technology contribute effectively to achieving the Millenium Development Goals (MDG's). The Commission identified specific measures and actions needed to integrate science and technology in national development strategies.[17]

At this session, furthermore, participants reaffirmed the unique role and mandate of the Commission "*as the only high-level United Nations entity established to provide high-quality advice to ECOSOC and the GA on science and technology for development. The primary role of the Commission remains that of a "think-tank", which studies the role of science and technology for development…".[18]*
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## 3. UN World Conferences on Science and Technology[19]

The UN took the initiative in launching the first UN World Conference with a considerable scientific content as early as 1948, already three years after its creation:

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[17] United Nations, ECOSOC, Commission on Science and Technology for Development, Promoting the application of science and technology to meet the Development Goals contained in the Millenium Declaration, E/CN.16/2004/2, 7 April 2004

[18] United Nations, ECOSOC, Commission on Science and Technology for Development, Report of the Seventh session, E/CN.16/2004/4, Geneva, 24-28 May 2004, p. v

[19] see also Standke, Klaus-Heinrich, Overview of past multilateral Conferences on Science and Technology, Report prepared for the Third Meeting of the Steering Committee of the International Scientific Advisory Board of UNESCO, Paris, 17 March 1997

The UN Conference on the Conservation and Utilisation of Resources. Other scientific conferences  -initiated by the UN Scientific Advisory Committee (SAC) under the United Nations auspices followed: In 1955 and 1958 to discuss the Peaceful Uses of Atomic Energy, in 1961 on New Sources of Energy.

Other UN World Science and Technology Conferences (or worldwide Initiatives, such as the 'World Plan of Action') with the involvement of all specialised agencies dealing with science and technology issues, in particular UNESCO, followed:

The UN and UNESCO have organised so far three world conferences dealing with science and technology, but each with a different conceptual approach. Two of them have been organised by the United Nations.

- The first,  was mainly prepared as a collective effort by the  UN itself, by the specialised  agencies and  by the scientific community,
- the second was mainly prepared as a governmental effort to which the Specialised Agencies of the UN system submitted only Background Documents and the scientific community submitted their collective thinking by way of Background Report prepared for the occasion,
- one of them has been organised by UNESCO together with ICSU, but without
  a conceptual involvement of the UN system.

In hindsight it can be said, that all three Conferences   can be considered as milestones in the complicated process to introduce science and technology notions into the political arena. Thus, all three have their merits, but none of them  are regarded by their critics without hesitation  as 'success stories':

- The United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas (UNCSAT), Geneva, 4. -20. February 1963

- The United Nations Conference on Science and Technology for Development (UNCSTD), Vienna, 20.-31. August 1979, preceded by the UN-ACAST Colloquium on Science and Technology and Society: Needs, Challenges and Limitations, Vienna, 13-17. August 1979

- The UNESCO/ICSU World Conference on Science "Science for the Twenty-first Century – A new commitment", Budapest, 26. June – 1 July 1999.

| | UNCSAT<br><br>4-20.2.1963 | ACAST Colloquium in Conjunction with UNCSTD<br>13.-17. 8.1979 | UNCSTD<br><br>20-31.8.1979 | UNESCO/ICSU WSC<br>26.6.-1.7.1999 |
|---|---|---|---|---|
| Countries | 96 *) | 87 | 142 | 155 |
| Participants | 1.665 | 383 | 1.856/1.271 **) | 1.800 |
| UN System | 108 participants | 102 participants | | 28 IGO's |
| NGO's | 90 | | 366 | 60 |

(* out of 110 UN member states in 1963   (** participants from NGO's

All three Conferences have dealt by and large with the same topics, but they have had distinct different features:

## 3.1 The United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas (UNCSAT), Geneva (1963) [20]

Although the decision of who was authorised to attend the Geneva conference, was left entirely to the participating governments, and yet, the conference was organised similar to a scientific congress. Governments, international organisations and others were invited to submit papers. UNCSAT was attended by 1.665 participants and 96 governments were represented. 1.839 papers were distributed for discussion at the Conference. Provision was also made for the projection of 250 documentary films and for an exhibition of 6.000 books and periodicals on science and technology .
UNCSAT had a major flaw: Only about 16 % of the scientists attending the conference were from developing countries.
UNCSAT was not empowered by ECOSOC)  to make recommendations to Governments or to take decisions regarding policy. It was expected instead that the records of the proceedings at the Conference should 'reflect any significant weight of opinion expressed in the discussions as summarised by the rapporteurs of the given proceedings'. It was the responsibility of ECOSOC to decide what action should be taken within the United Nations to provide a practical follow-up.

UNCSAT has paved the way for the acceptance of *science and technology policy* as part of the overall policies of developing countries: "*Since Science and Technology are essential tools for accelerating development, they have become the subject of political decisions and to that extent fall within normal government responsibility.*"[21]
Even the OECD, the platform of the Western industrialised countries, has organised only one year after UNCSAT assembled in Geneva, its first Ministerial Meeting on Science in 1964 in Paris.
The preparations for UNCSAT have been a joint enterprise of the UN, ILO, FAO, UNESCO, WHO, ITU, WMO and the IAEA. Each of the  agencies had prepared the agenda items within their field of responsibility.
UNESCO's involvement was manifold: The intellectual foundation of UNCSAT was laid by the report of UNESCO's former Director of the Department of Natural Sciences (1948-1959), *Pierre V. Auger* "*Current Trends in Scientific Research* » undertaken under the auspices of ECOSOC in the years 1958-1960. His successor at UNESCO,
*V. Kovda*, was a member of the Editorial Advisory Committee of UNCSAT to which three agency representatives belonged (UN, FAO and UNESCO).
The UNESCO Director-General, *René Maheu*, was together with the UN Secretary-General, the UNCSAT President and Secretary-General, and the Heads of the other mentioned agencies on the platform and addressed   the opening session of UNCSAT (in contrast to UNCSTD, where only the UN Secretary General and senior Conference staff were at the platform of the opening session in Vienna).
In the 8-volume conference report, numerous references were made on the UNESCO activities on various fields (e.g. Science and Technology Policy, Mass Media in Developing

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[20] United Nations, Report of the United Nations Conference on the Application of Science and Technology for The Benefit of the Less Developed Areas, Vol. I.- VIII, New York 1963
[21] United Nations, Report of the United Nations Conference on the Application of Science and Technology for The Benefit of the Less Developed Areas, op.cit.,  Vol. I. World of Opportunity,  p.185

Countries, UNESCO's Literacy Plan, UNESCO Latin America Centres on Mathematics and on Physics, UNESCO multination Indian Ocean Project, Science Teaching Programmes, Hydrological Decade, Migrants Integration).

## 3.2 The United Nations Conference on Science and Technology for Development (UNCSTD), Vienna, (1979)[22] [23]

The *United Nations Conference on Science and Technology for Development* (UNCSTD) took place in Vienna from 20.-31. August 1979. It was preceded by an International Colloquium on '*Science, Technology and Society - Needs, Challenges and Limitations'* organised under the auspices of ACAST in Vienna from 13.-17. August 1979[24]

The substantive ground work of UNCSTD was prepared by ACAST, by a consultants report[25], by an ad-hoc panel of Experts appointed by the Secretary-General (Geneva 23-28.10.1974), an by an intergovernmental Working Group (New York 21.4.-2.5.1975). Representatives of the specialised agencies, including UNESCO, have participated on the various stages of these preparations.

UNCSTD was conceived as "to be entirely different from the 1963 Conference and other conferences on science and technology and development in that it would attempt to examine the role of science and technology not as isolated instruments of action in the development process but as components of the overall system. In particular it would examine why the expectations of the benefits that science and technology might have conferred on development in the past have not been realized."[26]

UNCSTD was thus meant from the outset to be "an integral part of the efforts for the establishment of the NIEO through the adoption of decision and the provisions of concrete and action-oriented recommendations aimed at the use of science and technology for the development of all countries, and particularly of the developing countries".[27]

„*UNCSTD was really not on science and technology at all, nor on how specific technologies could be selected out of the world pool of science and technology for use by the developing countries, nor on which technologies need to be developed for the use of LDC's. Rather, the conference was oriented to the system within which science and technology are generated and implemented - namely the politics of both*

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[22] United Nations, Report of the United Nations Conference on Science and Technology for Development, A/CONF.81/16, New York 1979

[23] Standke, Klaus-Heinrich, The Prospects and Retrospects of the United Nations Conference on Science and Technology for Development, in: Technology and Society, Vol.1, pp.353-386, Pergamon Press Ltd (1980)

[24] Standke, Klaus-Heinrich and Anandakrishnan, M. (Editors), Science, Technology and Society: Needs, Challenges and Limitations, Proceedings of the International Colloquium, Vienna, Austria, Pergamon Press, New York-Oxford on behalf of the United Nations, New York 1980

[25] King, Alexander, The proposed United Nations Conference on Science and Technology, ESA/S&T/AC.4/2, 30. September 1974

[26] Report of the 'Ad-hoc Panel of experts to the Secretary-General on the proposed United Nations Conference on Science and Technology,', Geneva, 28.10.1974, p.6

[27] Preamble to the "Vienna Programme of Action on Science and Technology for Development", United Nations, New York 1979, p.1

*developed and developing countries towards R & D institutions and technology transfers, as well as the institutional structure and role of the United Nations and transnational corporations.*
*Consequently, many delegates who were oriented towards specific science and technology applications to developments problems were somewhat frustrated.'*[28]

In line with the famous *'ascending process'* of UNCSTD all participating states were asked to prepare 'National Papers', subsequently two rounds of Regional meetings took place in addition to the 5 sessions of the Preparatory Committee of the Conference. All-in-all delegates preparing UNCSTD have spent 80 session days in regional meetings, 69 days in sessions of the Preparatory committee and 12 days at the Vienna Conference itself.

UNESCO has attended all preparatory sessions and regional meetings of various kinds. At UNCSTD itself, UNESCO has had the largest delegation from all specialised agencies, led by the Director-General. Furthermore, UNESCO has given financial support to a number of individual experts attached to national delegations from developing countries.

UNCSTD turned out to be more controversial than other of the UN World Conferences:
- *Politically*: UNCSTD, as a milestone on the road to create a NIEO has to a large extent focussed on institutional changes within the UN system and less – if at all – on the substance of science and technology for development.[29]
- *Substantively:* UNCSTD deliberately left out those constituents which ultimately would have to carry out to a large extent the implementation of the Vienna Programme of Action, i.e. the specialised agencies and the scientific community.[30] [31]
- *Organisationally*: UNCSTD was characterized by two special features, i.e. the idea of the "Ascending process" and the idea of the running of the Conference essentially by an independent 'ad hoc secretariat without any ties to the past

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[28] Behrman, Jack, University of North Carolina

[29] After having listened to the presentation by the UNCSTD Secretary-General of the conference concept at an ACAST meeting in Geneva, in which concrete subject areas were only meant for "illustrative purposes" and would have no standing on their own at UNCSTD, H.B.G. Casimir, a member of the Advisory Committee, President of the Royal Dutch Academy of Sciences and for many years Member of the Board of Management in charge of Research and Development of Philips, Eindhoven, responded sarcastically: "If this concept becomes reality, than the United Nations Conference on Science and Technology for Development, will be known in history as a Conference without Science, without Technology, without Development: Let us called it simply "the Conference".

[30] Newsletter of the Pugwash Conferences on Science and World Affairs, Vol. 17, No.3, 1980, p.65: "…In fact, no action targets on international, regional and national scale were agreed upon in Vienna; no concrete commitments were made either by the developed or developing countries; preparation of an operational plan for carrying out the Program was left for the future, and the same was decided in respect to science and technology activities within the United Nations system. Thus, while technically the UNCSTD cannot be described as a failure, its contribution to the international mobilization of science and technology for development is close to nil. This judgement may sound harsh, but it reflects much better the reality than the painfully negotiated final agreement known as the Vienna Program."

[31] Even two years after UNCSTD the specialised agencies, such as UNESCO, felt to be left out from the conference follow-up process: *"...On constate avec regret que l'attitude très réservée du groupe des 77 continue a être très génante. Prèsque tous les projets de resolutions présentés par le groupe des 77 ne portaient aucune ou seulement faibles références aux contributions que l'on entend de l'ensemble des organisations du système des Nations Unies... »*. Rapport de la Troisième session du Comité intergouvernemental…, New York 26.5.-5.6.1981, Memo SC/UCE/3774, 9.6.1981

and thus unable to capitalize on the experience gained by the UN in being in close contact with the UN system and the NGO's throughout the world on the field out science and technology. [32]

The Vienna Conference results have upset the delicate balance between the UN und its specialised agencies. The developing countries have favoured a formula which concentrated as far as possible all UN science and technology oriented efforts in New York. The Austrian Government which has spared no pains in supporting the Conference during the lengthy preparatory process until the final Conference Resolution ('Vienne Programme of Action for the Application of Science and Technology for Development ('VPA)") thus felt disappointed, UNESCO's hopes, to become the main executing agency for the VPA, has seen its position weakened. The United States which, under the leadership of Secretary of State Henry Kissinger, has made for the first (and last) time a bid to be the host country for an United Nations Conference, felt in any event disillusioned by the UNCSTD outcome and has practically dropped all interest on the follow-up of the Conference.
In hindsight, it has to be stated that the UN in New York was not strengthened through UNCSTD as it was intended, but to the contrary, has lost almost all visibility on issues concerning science and technology and is relying to a large extent on the expertise of consultants.

The most visible result of UNCSTD was the agreement that a new *financing system for science and technology for development* should be established by the General Assembly of the United Nations. The 'Group of 77' expressed the hope at UNCSTD that 2 billion dollars could be raised by 1985 and 4 billion by 1990., i.e. at least two to four times the amount of the annual budget of UNDP.
At UNCSTD the donor countries agreed, however, only to the establishment of an Interim Fund for the years 1980-1981 to be sustained by voluntary contributions for which the Conference agreed that 'the target' should be no less than $250 million. UNCSTD thus reiterated in Vienna the estimation made by ACAST eight years earlier, when suggesting that as tentative targets, the World Plan of Action fund, or account, $125 million p.a. should be allotted for initiating or accelerating the programmes outlined by the Advisory Committee.
Although the Interim Fund was finally called 'operational' by the Administrator of UNDP, a series of pledging conferences mobilised only funds in the order of magnitude of altogether $50 million. That is to say that the UNCSTD preparations and later the costs to administer the Fund exceeded by far the financial contributions mobilised through the UNCSTD exercise.
The Financing System for Science and Technology created by UNCSTD was formally terminated in 1986.

To commemorate the tenth anniversary of UNCSTD and as a contribution to the end-of-decade review of the VPA the Director-General of UNESCO *Féderico Mayor* has convened on 14-16 June 1989 in Paris a High-level Colloquium "*Science and*

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[32] The Canadian Delegate to the Fifth Committee of the GA on 18.12.1979 suggested ironically at the session voting on the budget for the new enlarged secretariat structure, in his opinion UNCSTD should be more appropriately called: United Nations Conference on Science and Technology for Staff Development.". The US delegate was so upset about the breach of the 'carefully negotiated agreements' on the staff arrangements that he regarded this outcome as an 'ominous omen' for the position of the US towards the expected funding mechanism.

*Technology for the Future: A Fresh Look at International Co-operation"*[33] The meeting was attended by 85 participants, including the UN Director-General for Development and International Economic Affairs, the  Assistant Secretary-General of UNCSTD, the Director of the UN Fund for Science and Technology, senior representatives from UNIDO, UNEP,  the World Bank, the OECD, the European Union, the French Minister of Research and Technology,   the ICSU President, numerous Presidents of  Academies of Sciences, including the NAS, the Soviet Academy, the Indian Academy,  the French Academy and the CNRS, the Nobel Committee, the Federation of German Scientists,  the World Academy, the Third World Academy, the European Academy, the African Academy, the Club of Rome and the Chairmen of UNESCO's various Intergovernmental Scientific Programmes. Furthermore, there have been R&D Directors from private industrial  companies and the Secretary-General from EIRMA.

The UNESCO Colloquium called for a new interaction in the 1990's on the field of science and technology between multilateral und bilateral relations in which the regional intergovernmental organisations would, in addition to the worldwide operating specialised agencies of the UN system, emerge as important new actors. The Colloquium furthermore predicted that in international co-operation the role of scientific non-governmental organisations, as well as that of the private sector,  will – on a world scale – rapidly increase.

## 3.3 ACAST Colloquium on the Application of Science and Technology to Development

One of the most major contributions which ACAST has made to the UNCSTD preparations was to serve as a liaison between the United Nations system and the international,  non-.governmental scientific and technological communities. The Advisory Committee has repeatedly stressed that „...*in the context of the Conference the instruments of action are science and technology and it is therefore equally essential to ensure that the scientific community of all the countries taking part is intimately and actively involved in all phases of the preparations and in the Conference itself. Such a close association between governmental decision makers and scientists is in any event a* <u>*sine qua non* </u>*at the national level for the successful application of science and technology to development*[34].

Consequently, ACAST has attempted to integrate the inputs from the international scientific and technological communities as well as from the UN system through a special forum prior to the Conference. The Colloquium provided thus an opportunity to scientists, technologists, social and economic planners to consider the role of science and technology in relationship to the issues to be discussed by the Governments at UNCSTD.

It is worth mentioning that the ACAST Colloquium has not only received strong professional support from all concerned UN agencies (e.g. through commissioned position papers), it was also one of the rare UN-system-wide manifestations in which more than 100 senior staff members from 23 different organisations have actively participated as experts in all deliberations and working groups

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[33] Standke, Klaus-Heinrich (Editor), Science and Technology for the Future: A Fresh Look at International Co-operation,  Second Edition, UNESCO, Paris 1990
[34] Twelfth Report of ACAST to ECOSOC, E/C.8/30

## 3.4. The  UN Millenium Project 2005

Thirty years after the presentation   of ACAST's "*World Plan of Action for the Application of Science and Technology to Development*" to ECOSOC and twenty years after the adoption of the *"Vienna Programme of Action for the Application of Science and Technology to Development"* by the General Assembly, the United Nations have developed a similar comprehensive global plan for science and technology for development: As part of the Millenium Initiative of the UN[35] a special Task Force has prepared a report  "*Millenium Project 'Science, Technology and Innovation 2005"*.[36] The 'Millenium Project' is an independent advisory body commissioned by the   UN Secretary-General to propose the best strategies for meeting the Millenium Development Goals (MDGs). By the year 2015, all 191 UN member states have pledged to meet these goals.[37]

In the exhaustive list of references  concerning material used in the preparation of the UN Global Plan, a number of agencies are being specifically mentioned (UN, UNCTAD, UNDP, UN-ECE, UN-ESCWA, UN-ESCAP, FAO, IADB,  UNIDO, ITU. OECD), but no reference to any UNESCO input has been made.
In the list of references used as background material for the Millenium Project published in 2005,  among some 300 references the only UNESCO report mentioned is five years old: "UNESCO Dakar Framework for Action 2000".[38]
In the Commissions report on how to meet the MDG's the only reference to UNESCO is a Toolkit on Gender Indicators in Engineering, Science and Technology by the UNESCO/GAB (Gender Advisory Board).


### 4.  Priority setting on the Agendas of UN and UNESCO related Worldwide Initiatives on Science and Technology

**Priorities on the Agendas of UN and UNESCO related Worldwide Initiatives** (1963-2005)

|  | UNCSAT Geneva 1963 | ACAST World Plan Of Action 1971 | ACAST Colloquium Vienna 1979 | UNCSTD Vienna Programme of Action 1979 | UNESCO Colloquium 10 years after UNCSTD 1989 | UNESCO/ ICSU WSC 1999 | UN Millenium Project Sc-T and Innovation 2005 |
|---|---|---|---|---|---|---|---|
| Natural resources Energy Water, Sanitation | ü | ü | ü |  | ü |  | ü |
| Human resources | ü |  | ü | ü | ü |  |  |
| Food and Agriculture | ü | ü | ü |  |  |  | ü |
| Industrial development | ü | ü | ü |  |  | ü | ü |
| Transport | ü | ü | ü |  |  |  |  |
| Health | ü | ü | ü |  |  |  | ü |

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[35] United Nations, UN Millenium Project 2005 Global Plan: Achieving the Millenium Development Goals, New York 2005
[36] UN Millenium Project, Task Force on Science, Technology and Innovation, Spreading the benefits of technology and innovation, New York 2005
[37] UN  Millenium Project, Investing in Development – A Practical Plan to Achieve the Millenium Development Goals, A Report to the UN Secretary-General, New York 2005 (with a special chapter on "Science, Technology and Innovation: Building national capacities)
[38] UN  Millenium Project, Investing in Development,  op.cit. p.320

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Urbanisation Human Settlements | ü | ü | ü | | | | |
| Economic Development | ü | | ü | | ü | | ü |
| Organisation and planning of scientific and technological policies | ü | ü | ü | ü | ü | ü | ü |
| Technology acquisition transfer and adaptation | ü | ü | ü | ü | | | ü |
| Training of scientific and technical personnel | ü | | | | | | |
| Communication, Information Systems | ü | ü | ü | ü | ü | ü | |
| Science and technology education | | ü | | | | ü | ü |
| Population | | | ü | | | | |
| Environment and sustainable Development | | ü | ü | | ü | ü | |
| Restructuring of international Sc&T relations | | | | ü | | | |
| Strengthening the role and funding of the UN system in Sc&T | | | | ü | ü | | |
| Basic Sciences | | | | | ü | ü | |
| Biotechnology | | | | | ü | | |
| Peace, Ethics, Human Dignity, Basic Human Needs | | | | | | ü | ü |
| Widening participation in Sc | | | | | | ü | |
| Innovation and Business activities | | | | | | | ü |
| Governance of Global Technology | | | | | | | ü |
| Advisory role to governments | | | | | | | ü |

As this matrix - covering within a time-span of four decades seven UN system-wide Conferences and Global Initiatives on Science and Technology - reveals, most of the issues dealt with, cover, not surpringly, more or less identical problem areas. There are, however, differences in the emphasis given to the various clusters. There is a clear tendency from 'Science' to 'Science and Technology for Development' and more recently, as at the European Union and at the OECD, but also in UN agencies, to 'Science and Technology and Innovation'. The Millenium Report, unheard of during the heated debates around UNCSTD, speaks even of "Promoting business activities in science, technology and innovation'.

Against this development, UNESCO apparently continues, in line with its original mandate, to concentrate on the notion of "Science" and "Science Policy".

## 5. Conclusions

The Geneva-based UN Commission on Science and Technology for Development sees "its primary role as a "think tank", which studies the role of S&T for development.[39]. In earlier decades, it was UNESCO that could claim to be the "intellectual organisation" and thus a sort of "institutionalised think tank" of the UN system.

Whereas UNESCO is leaning increasingly towards science and its applications, the UN – as most of the other specialised agencies on their fields of competence and as other intergovernmental organisations such as OECD, EU, the World Bank – are following more and more the chain "Science – Technology – Innovation - Industry".

The role of UNESCO's Natural Science Sector is to be seen within the organisation's medium term strategy, which is formulated around around a single unifying theme: UNESCO's contribution to peace and human development in an era of globalisation. The Science Sector sees thus its explicit mission "as Promoter and Broker of Science" within the overall vision of "Creative Science for the Benefit of Society".[40] There can be no question about the validity and importance of these noble and worthy tasks which have been approved by all member states of the organisation. And yet it becomes obvious from a screening of publications,
internal reports and working methods of the UN Commission on Science and Technology for Development that the main inputs are not coming anymore, as in earlier years, from UNESCO, but from a large pool of experts and consultants. The Millenium Report, at present the main framework for the UN activities – which can be compared to the "Development Decades" in the 60s and 70s of the 20th Century – was prepared "by more than 250 of the world's leading practitioners" and not anymore as in the past, by a close interaction between the United Nations, the specialised agencies and Standing Advisory Committees such as UN-ACAST. Apparently neither the need to safeguard through a core group of high-level experts some sort of 'institionalised memory' nor the long-time cherished need for the geographical balance in the membership of groups providing expert advice seem to be any longer of particular importance.
Instead, independant expert bodies, such as the InterAcademy Council (IAC), launched in 2000, which represents over 90 national academies – seem for the UN to be the preferred linkage with the world scientific community. In the IAC's own words, it is capable of mobilising: "The world's best scientific advice". In 2004 the IAC produced a a widely acclaimed report:"Inventing a Better Future: A Strategy for Building World-Wide Capacities in Science and Technology".
It is striking that in the 213-page Task Force Report on "Science, Technology, and Innovation 2005" of the UN Millenium Project, no single reference was made to ICSU. On the eve of its 75th birthday in 2006, in order to define its role within this changing environment, ICSU is responding swiftly to the new challenges. For the first time since it was founded in 1931, ICSU has launched a comprehensive strategic plan covering 2006-2011: "Strenghtening International Science for the Benefit of Society".

It is perhaps no exaggeration to believe that the changes which occurred at the United Nations on the field of inter-agency cooperation in science and technology issues during the last twenty-five years have had a more lasting negative impact for

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[39] UN, ECOSOC, 2004b :V
[40] UNESCO, 2003

UNESCO than for any of the other specialised Technical Agencies of the UN system. A number of reasons for this development come to mind:

- Most of the major issues calling for worldwide initiatives fall within the sectoral responsability of national ministries and – on an international scale – of specialised agencies with a mandate for a specific sector.

- If it comes to 'cross-border' issues of a multidiciplinary nature, the intererst of the world community seems to be increasingly on the inter-relationship among the political, scientific and technological components of socio-economic development. The main focus of UNESCO's mission as a "Promoter and Broker of Science" is a noble and important target, but it seems to have difficulties – outside the higly appreciated National Commissions – in maintaining the necessary constituency. More than 30 years ago the ministries of science in the industrialised countries were transformed into ministries for S&T, and practically all developing countries have been transformed into the same direction. The platform for the world's science is provided – judged alone by the number of initiatives – by prominent non-governmental organisations such as ICSU, IAC and the Third World Academy of Sciences (TWAS). To this challenge, the "S" in UNESCO in the 60th year of its existence as an intergovernmental organisation may yet have to find the proper response. Appropriately, the General Conference of UNESCO, when meeting in Fall 2005, commissioned a review panel to undertake an external evaluation of UNESCO's activities in the fields of natural sciences and of social sciences.

- The World Science Conference held in 1999 in Budapest – not organised by UNESCO as an intergovernmental conference following standard procedures within the UN system, but as a joint exercise *sui generis* between UNESCO and ICSU, a non-governmental organisation – broke new ground on the organisation of world conferences. In view of the fact that its outcome was not the result of negotiations among governmental organisations of member states, it has to be seen as a series of worthy declarations among the participants which are not binding on UNESCO's traditional constituents: that is, member states. This fine line may illustrate the difference between world gatherings of intergovernmental organisations and non-governmental organisations. This observation is not meant to belittle the outcome of WSC in any way, but it rather demonstrates that, in entering this association with ICSU as a co-organiser, UNESCO had to give up its valuable prerogative as an intergovernmental organisation: that is to reach negotiated positions among the different interests of its member states. Along the same line of thought, the question may occur what the real impact of the work performed by the Science Sector on member states is and furthermore, if such work – given the similarity of UNESCO's Medium Term Strategy in the Natural Sciences and ICSU's new Strategic Plan 2006-2011 – could not be efficiently be carried out by a strenghened ICSU?

- The fate of the UN-ACAST's '*World Plan of Action for the Application of Science and Technology to Development* (New York 1971)' as well as the '*Vienna Programme of Action on Science and Technology for Development* (New York 1979)' signals clearly that the time for global "UN Master Plans", equally valid for each individual member state, is over. UNCSTD in Vienna was perhaps the last UN manifestation in which ultimately the Group of 77, on one side, and the Group of Western industrialised countries, on the other side, was able to negotiate an UN-wide-programme on a broad range of S&T policy issues and their financial implications. It soon became obvious that the interest

of the of the large 'global players', such as China, India, Brazil, and the smaller newly industrialising countries in South-East Asia were different from the majority of other developing countries. The present world pattern of globalisation with its even more accentuated uneven distribution of S&T know-how makes the traditional distinction between developed and developing nations rather meaningless. UN and UNESCO, also both having a universal membership, are primarily being perceived as platforms for North-South issues and for the debate of global concerns. The industrialised countries and also increasingly the economically more advanced countries of the still so-called Third World have a tendency not to use the UN and/or UNESCO for the deliberation of their development strategies and of their S&T policies.

The role of S&T within the UN structure has followed cyclical patterns. As in the organisations of the Western industrialised countries, such as the OECD, the Council of Europe and the European Union, the UN has made strong efforts during the 1960s, 1970s and 1980s to give the field of S&T a highly visible role in its deliberations. Whereas the traditional industrialed countries (for example the 'Lisbon Strategy' of eu EU, but also similar strategic plan in the US and in Japan) as well as the new global players (China, India, Brazil and others) continue to see in S&T the prime mover within the national and regional development process, the UN is no longer seen as a prime actor in this field.

UNESCO has apparently not been motivated to fill the vacuum left by the UN. Reasons may be lack of funds and thus of capacity, and perhaps also the strong focus on science issues. The call for a better integration of UNESCO's Natural Science Sector with UNESCO's  Social Science Sector is as old as both sectors exist.

As already mentioned, the last major effort of UNESCO – together with its partner ICSU –  to mobilise world opinion  through the WSC to the cause of S&T provided a valuable forum for the much-needed debate between the scientific community and society. The wider, more economic-driven notion of S&T as powerful development factor was not the focus of the Conference. Neither the UN nor any other world-wide agency seems at present to provide such a platform. The small UNCTAD unit in Geneva which is  at present servicing the CSTD, has the mandate, but neither the means nor the clout, to play such a role. This is of tragic consequence in particular for a high number of poorer countries for which the gap in their capability to apply science and technology to their own development process is still widening. Perhaps the ongoing review process of the Science Sectors of UNESCO will address this question. A new effort is certainly  needed. The Committee set up by UNESCO's Director-General Matsura on 28 February 2006 to review both the natural and social science activities of UNESCO identified in its rather severe interim report some key issues calling for a drastic change of direction, for example:

- UNESCO is missing the opportunity to design and manage its (science) programmes in a manner which reflects the inherent nature of all today's major global problems.
- The science programmes lack visibility in the international arena, and reflect both their current limited impact and UNESCO's ineffective coordination and cooperation with other international science organisations, such as the International Council for Sciences (UNESCO 2006).

For the UN system as a whole, it seems to be high time to re-asses the role of S&T advice in world affairs. The UN as well as the specialised agencies have still the potential to attract some of the best representatives of the world's scientific and technological community to give counsel and advice.

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**About the author**

Beginning with his PhD thesis at the Technical University Berlin on *Industrial R&D and international Competitiveness*  Klaus-Heinrich Standke has spent  some 40 years of his professional life on various aspects of International Co-operation and on  issues of Science and Technology Policy.
From 1966-1974 he was a staff member (Counsellor) in the Directorate of Scientific Affairs of the OECD, in the years 1969-1974 he was seconded as Secretary-General of the OECD-sponsored European Industrial Research Management Association (EIRMA), to which some 150 of the leading European research-intensive companies belong.
In 1974 he was appointed  Director of the United Nations Office for Science and Technology (OST), New York. In this capacity he was Secretary of the United Nations Advisory Committee on the Application of Science and Technology to Development (ACAST) and Chairman of the Interagency Committee on Science and Technology of the ACC. His functions included the the responsibility for the substantive inputs into the United Nations Conference on Science and Technology for Development (UNCSTD), held in Vienna in 1979.
After the Vienna Conference he served since 1980 for almost twenty years in various functions affiliated with UNESCO (Principal Director at the Science Sector, Special Advisor to the Director-General with the rank of Assistant Director-General (ADG), Member of the International  Scientific Advisory Board and ex-officio member of the Advisory Committee of the World Science Conference, Budapest 1999 ).

Subsequently, Klaus-H. Standke has served as EU Senior Advisor on Science and Technology Policy to the Polish Government, he acted as consultant to the Council of Europe and as Special Advisor for Eastern Europe to the Prince of Wales Business Leaders Forum (PWBLF), London. He is a member of the President's Council of the New York Academy of Sciences and an elected member of the European Academy of Sciences and Arts. He was awarded with the degree of *Doctor honoris causa* in Poznán and Moscow.
By invitation of Professor Mircea Malitza he is a member of the Advisory Council of the Black Sea University. Furthermore he is  member of the Board of Directors of the German-French Association for Science and Technology (Paris/Bonn). At present he serves as President of the Association to promote the French-German-Polish Cooperation ('Weimar Triangle').
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