Transition to Mass Higher Education Systems:
International Comparisons & Perspectives

Proceedings of the International Conference

The S. Neaman Institute
December 5-6, 2004.

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Contents

Foreword

This volume contains the papers presented at an international colloquium entitled "*Transition to Mass Higher Education – International Comparisons*" which took place at the S. Neaman Institute at the Technion, in Haifa, Israel on December 5-6, 2004. In addition to the full papers, the volume also contains the questions and answers following each paper, the Round Table discussions and the Report of the Rapporteurs.

The colloquium was sponsored by the Samuel Neaman Institute for Advanced Studies in Science and Technology, the Fulbright United States-Israel Educational Foundation and ISEF – the International Educational Foundation and was supported by the British Council Israel, the Embassy of the Netherlands, and the Italian Cultural Institute, Haifa.

The organizers of the conference believe that the Israeli higher education system is at an important juncture in its development from an elite system to a mass higher education system, and that it has reached its 'moment of truth'. Therefore it was deemed both timely and appropriate to examine the system within a broad international perceptive.

We believe that this volume contains a rather comprehensive snapshot of the Israeli higher education system at the turn of the century, in the midst of a difficult transition, with its successes and failures, its accomplishments and challenges, and its hopes and concerns. The Israeli perspective was presented at the conference by leading educators from the universities and colleges who now hold, or have held in the past, key positions. Many of them have indeed made major contributions to the creation and development of the system as it is today.

However, what makes this volume unique is that side by side with the Israeli perspective, it also presents a balanced view from the outside by world-class experts and leaders of higher education from Australia, Germany, Italy, the Netherlands, Sweden, the United Kingdom and the United States of America. Not only do they present

a fresh perspective on the position of the Israeli higher education system, but they also provide information and insight into the similar transitions that took place in their own countries. Thus, the reader is exposed to a very broad perspective on the major changes higher education systems are undergoing worldwide, and is given the opportunity to examine the changes of their own system in this global mirror.

The volume concludes with an epilogue written by Prof. Sheldon Rothblatt of the University of California, Berkeley, on behalf of all the participants from abroad, which has hopefully sparked a dialogue between Israel's colleges and universities.

We would like to express our thanks and appreciation to the professional staff whose behind-the-scenes work helped make the colloquium the success it was: Ms. Charlotte Diament who was responsible for coordination with all the speakers; Ms. Rebecca Best, the head of the Neaman Institute Offices, who oversaw the organizational details, and her staff members Drora Einziger, Ethy Safrir and Uri Sahar; Mr. Golan Tamir who supervised the audiovisual arrangements; and Ms. Abbie Rosner who edited this volume.

Zehev Tadmor (Chair and Editor), Eli Avraham, Sarah Guri-Rosenblit, Hanoch Gutfreund, Alex Keynan, Nadav Liron, Mordechai Shechter, and Neal Sherman

SESSION I

The Expanding Higher Education System in Israel: Challenges and Problems

THE ISRAELI SYSTEM – PLANS AND PERSPECTIVES

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The framework of the system of higher education in Israel is defined in the Council for Higher Education Law, enacted in 1958, with 11 amendments. This law established the Council for Higher Education (CHE) and the procedures for the accreditation of institutions of higher education. **Article 15 of the Law guarantees that the institutions of higher education are autonomous in the conduct of their academic and administrative affairs within the framework of their budgets and their terms of accreditation.**

The Council's responsibilities include:

- Accreditation - to grant a permit for the opening and maintenance of an institution of higher education;
- Approval of new degrees and programs;
- Institutional designations - to permit an institution to use designations (such as university, academy, etc.)
- Licensing foreign institutions - to license the branches and extensions of foreign institutions of higher education to operate in Israel in specific programs of study.

A new function of the CHE is in the area of quality assurance and assessment. In June 2003, the CHE decided to establish a national mechanism of quality assurance and assessment in higher education. A new unit in the secretariat of the CHE was set up to implement this decision and to plan, organize and carry out quality reviews in the Israeli higher education system. The decision calls for a regular program of quality reviews on two levels: at the level of the individual program of study, according to specific fields or sectors (i.e. – all programs in a specific field at one time) and at the institutional level. Programs of study are to be assessed once every six years, and entire institutions are to be assessed once every eight years. Program assessments will be based on institutional self-evaluation and on

questionnaires, and will be carried out by committees of experts in the field, including experts from abroad. Institutional assessments will be based primarily on the results of the subject assessments, and will also be carried out by committees appointed by the CHE, including experts from abroad and public representatives.

The chair of the CHE is the Minister of Education. The CHE has 25 members, two-thirds of whom must be of academic standing. Two ex-officio members of the CHE are the chair of the Planning & Budgeting Committee and the chair of the National Students Union.

The Planning and Budgeting Committee (PBC)

The Planning and Budgeting Committee (PBC) was established by a decision of the CHE in January 1974, to delegate its responsibilities of planning and budgeting to this committee. The PBC is, therefore, the executive arm of the CHE.

In June 1977 the Government endorsed the CHE's decision to establish the PBC, and set out its terms of reference:

(1) To be an independent intermediary body between the government and the institutions of higher education, in all matters relating to allocations for higher education;
(2) To exclusively allocate the state budget to the institutions of higher education, taking into account the needs of society and the state, while safeguarding academic freedom and assuring the advancement of research and teaching;
(3) To ensure that institutional budgets are balanced and executed according to plan, and to monitor the financial solvency of institutions of higher education;
(4) To draw up plans for the coordinated and efficient development of higher education at the national level;
(5) To submit its recommendations to the CHE concerning requests to open new institutions or new units in existing institutions, after examination of the planning and budgetary implications of their implementation.

The membership of the PBC is composed of seven members: four university professors, one of whom serves as the chair of the PBC, one representative from the academic staff of the non-university sector, and two representatives of the public from the economic, business or industrial sectors of the economy.

The PBC and the CHE are administered by a professional staff of about 60 employees, headed by the Director General, who has four deputies: Secretary of the Council, Deputy Director General for Budgeting; Deputy Director General for Planning and Information; and Deputy Director General for Wages and Administration.

The Institutions of Higher Education

The expansion and diversification of the higher education system resulted in the emergence of different types of institutions that were intended to provide alternative solutions for the growing demand for higher education all over the country. The institutions of higher education in 2004, divided into eight categories, are: Universities, The Open University, Arts Academies, Comprehensive Academic Colleges, Academic Colleges of Engineering, Academic Programs under University Auspices in Regional Colleges, Academic Colleges for the Training of Teachers, and Non-Budgeted Colleges. As can be seen from Table 1, there has been a significant increase in the number of higher education institutions over the last 15 years.

Table 1: The Institutions of Higher Education, 1990-2004

Type of Institution	**1990**	**2003**	**2004**
Universities	*7*	*7*	*7*
The Open University	*1*	*1*	*1*
Arts Academies	*2*	*2*	*2*
Comprehensive Academic Colleges	*0*	*6*	*6*
Academic Colleges of Engineering	*2*	*8*	*8*
Non-Budgeted Academic Colleges	*2*	*6*	*7*
Academic Colleges for the Training of Teachers	*7*	*24*	*26*
Total	**21**	**54**	**57**

The revolution, if we can call it that, is that the number of students studying for bachelor's degrees in the universities decreased significantly during the last 10-15 years. If in 1990, close to 90% of the students studied for a bachelor's degree in universities, now less than 50% are studying in universities, a very significant decrease.

What are the factors that made the growth in students' numbers possible? First, more young men and women recognize the importance of higher education for social and economic progress, a trend that is now seen all over the world. The growth and diversification of institutions of higher education and, moreover, development within the institutions themselves, enabled them to offer new programs and academic degrees in a wide variety of subjects, some of which were not previously offered in Israel. The opportunities, then, have become very, very broad. The success of Israeli industry, especially in the field of High-Tech, brought the fruits of advanced studies to the attention of young men and women, which also had the effect of motivating students toward pursuing a higher education.

The Funding of Higher Education

Of the 54 institutions accredited for higher education in 2003, 24, with 188,000 students, are funded by the PBC; 24 academic teacher training colleges, with 20,700 students, are funded by the Ministry of Education, and six academic colleges, with about 18,500 students, receive no public support. The PBC allocations, 1.2 billion US Dollars in 2003, account for 65% of the budgets of the universities, 62% of the budgets of Art Academies and Academic Colleges of Engineering, 57% of the budgets of Academic Comprehensive Colleges, and 45% of the budgets of the regional colleges.

Current allocations to institutions of higher education are divided into three main categories: block grant allocations, earmarked allocations, and matching allocations. I will focus on the **Block Grant Allocations**.

This is the major source of PBC funds transferred to the institutions of higher education (85%). The block grant consists of two components – teaching and research, each determined by a special model developed by the PBC.

The budgeting model has two main objectives:

(1) To provide an objective and fair tool for the allocation of public funds to the regular operating budgets of universities for teaching and research, while encouraging efficiency, quality and enhancement of teaching and research outputs.

(2) To enable the universities to plan and budget their teaching and research activities in a way that maintains the academic and administrative autonomy of each institution.

Budgeting for teaching is based on an absolute model, whereas that for research is based on a competitive model. The allocation formulas are based on outputs, the data for which are derived from objective, timely and reliable sources external to the institutions of higher education. Institutions of higher education may use the block grant according to their own internal priorities, on the condition that they maintain a balanced budget.

The *teaching component* of the block grant is calculated as the sum of the number of students in each field of study multiplied by the tariff (per field of study) and by an efficiency factor parameter (calculated by the proportion of graduates to students). Data on students and graduates come from the Central Bureau of Statistics (CBS).

The *research component* of the block grant is allocated only to the research universities, on a competitive basis, according to the following four indicators, with their proportional weights:

(1) Income from competitive research funds (35%);
(2) Income from non-competitive research funds (20%);
(3) Scientific publications (15%);
(4) Numbers of Ph.D. students (30%).

Regarding the colleges or the non-university academic institutions, the main and only factor is teaching, and we do not support research in colleges. This is our policy.

Allocations to Research Funds and Inter-University Activities

The PBC funds the Israel Science Foundation (ISF), which in recent years has become the largest research fund in Israel. Its competitive allocations are based on scientific excellence and peer review. The PBC's allocation to the ISF more than doubled, from 20 to 50 million US Dollars between 1997 and 2003.

The PBC pays 45% of Israel's investment in the EU Sixth Framework Program for Research & Technological Development

(with 45% covered by the Ministry of Industry and Trade and 10% by the Ministry of Science).

The Five-Year Plan

Higher education in Israel operates within a series of five-year plans. Each plan is backed by a five-year agreement between the PBC and the Ministry of Finance. Higher education is the only public sector that has multi-year agreements with the Treasury.

The next five-year agreement will cover the period 2004/5 to 2008/9. In preparation for the negotiations with the Treasury, the PBC has submitted its five-year plan to the CHE. The plan builds on the achievements of the past. Higher education in Israel was completely transformed during the nineties. The number of academic institutions more then doubled and the number of students tripled. Selective access has been giving way to what will soon become universal access.

The monolithic system of research universities was diversified, with distinct types of institutions assuming different missions to respond to the changing demands of the workplace and to the variegated aspirations of today's young men and women.

Now, what are the major targets of the five-year agreement for 2004-2008?

- First, enhancing scientific excellence. I will refer to this in a minute.
- Second, establishing quality assurance in teaching and research. The time has come for us to focus on this and ensure that the quality, both in universities and colleges, reaches our expectations.
- Third, stabilizing the financial condition of the universities. It was mentioned before that the higher education system went through severe budget cuts, and a few institutions almost collapsed, so one of the main target of this new five-year plan is to stabilize the financial condition of these universities.
- And finally, to expand the access to higher education, and again I will refer to this later.

Scientific Excellence

Small in size and population, lacking natural resources and burdened with imposing defense needs, Israel has nonetheless come a long way since the establishment of the State in 1948. Since 1950, Israel has witnessed an almost fivefold growth in its population and in its per capita GDP in real terms. No explanation of this economic growth would be complete without taking into account Israel's strong, vibrant and highly dynamic research system. Israel maintains a long-established record of activity and achievements in basic and applied scientific research.

Following are some indicators of Israel's strength in science:

- Israeli scientists produce about 1% of the world output of articles in international scientific journals.
- In relative terms, Israel ranks third in the world, behind Switzerland and Sweden, in the number of scientific articles per capita and fourth in the world (behind Switzerland, Sweden and the United States) in citations per capita.
- Israel excels in the field of computer science both in terms of research output and of the impact of the research. Israel produces 2% of all articles in the computer sciences, more than double its overall share, and ranked first in the world in the average number of citations per article in this field.
- Israel also ranks highly in the impact of its scientific articles in the fields of biomedical research, chemistry and physics.
- A major feature of Israel's scientific research is its international character. 96% of Israeli authored scientific articles in the natural sciences and technology are published in foreign journals. A high and rising share of Israel's scientific publications are written in collaboration with foreign scientists. This trend is, of course, worldwide, but Israel has consistently maintained one of the highest rates of foreign collaboration among the developed countries. The dominant partner of Israel's internationally co-authored articles is still the United States, although in recent years this dominance has lessened considerably in favor of European countries.

The major question that we are facing today is whether scientific excellence and universal access to higher education are mutually exclusive, or can they exist in parallel pathways. We know that the

former system of selective access is evolving toward universal access, and the monolithic system is now being replaced by the differential system. We see many institutions with different missions and this is in response to the changing needs of the economy and the different aspirations of the students.

The number of universities has remained fixed over the last 20 years, while the number of other types of institutions in Israel increased significantly. Moreover, there was a significant rise in the rate of growth in student enrollment. In percentages, it is clear that the portion of students enrolled in the universities for first degrees is less than 50% of the total numbers of students studying for a bachelor's degree in Israel.

So we now have two sectors in higher education. We have the universities on the one hand, which combine research and teaching, and on the other hand, we have the remaining institutions of higher education, whose mission is to provide an academic education at the highest possible level. These two sectors operate within one system, with one funding agency, the PBC, and under the supervision of the CHE.

According to Israeli law, all academic degrees of universities and other institutions are equal. Now, what is the main role of universities, and what do we expect from them? First, they should compete to achieve scientific excellence at an international level, and this they are accomplishing. Second, they need to prepare the next generation of scientists and the academic staff of the future.

There has also been a significant increase in post-graduate students – students who are focusing on research in the universities, and who represent our future. We are fighting the phenomena that we have with the master's degree, where there has been a very nice increase in students enrolled in master's degree studies, but unfortunately without a thesis; we can observe only a small increase in master's students involved in research. In light of this situation, the PBC decided to give extra support to those students who are pursuing a master's degree with a thesis, with the aim of enhancing research.

The colleges (non-university institutions) should provide a place for anyone who can benefit from academic education. They must promise diversity in higher education, and reach new groups in the population that were heretofore under-represented in academic

institutions. Furthermore, they should be oriented to the labor market and teach employable skills. As to the future, the enrollment in research universities will slow down significantly as many students choose to study in the academic college system. The colleges are spread throughout the country, and should facilitate the growth and strengthen the social and economic fabric of peripheral areas.

Academic colleges are not expected to engage in research. Hence, college staff bear a heavier teaching load; twelve weekly hours compared to eight hours in the research universities. Therefore, the cost per student is lower in colleges.

Regarding the impact of the colleges on the center and periphery of Israel, you can see here what has happened. In the Northern district, for example, from 1990 to 2004, there was a significant increase in bachelor's degree students, close to 7%, and over 15% in the Southern district. I think these are the significant achievements of the colleges, the non-university institutions around Israel.

So what is the balance between universities and colleges? The practical disciplines, engineering, the health professions, management, and communications, have a lower research output and are mainly taught in colleges. This is a general assumption, without referring to the Technion. The non-practical fields: philosophy, history, physics, chemistry, and life sciences, are taught primarily at research universities.

According to PBC policy, excellence by definition is restricted to a small percentage of the top students and scholars. The size of the core of excellence should not change as a result of the expansion of the entire higher education system. At the same time, society should provide an institution of higher education and a place within it to anyone who can benefit from academic education. Due to limited resources, however, the numbers of students in higher education institutions will not increase significantly; as I said, we shall expand but in a controlled manner.

At this point, I believe that the government should be allocating extra funds for unique research projects through the PBC. I'm referring to nano-technology, bio-technology and other fields that are going to be essential for developing the excellence of science in Israel, and for competing with other countries. On the other hand, the

universities should increase their efforts to receive more research funds from funding sources abroad.

Finally, the time has come to focus on quality assurance. This refers both to teaching and to research. The CHE is going to spearhead this effort, together with the PBC, and we are going to carefully evaluate the various programs of study in colleges and universities regarding their quality.

So, to sum up my presentation on an optimistic note, I know we have limited resources, yet we do have the five-year agreement, which helps maintain stability and continuity. Still, I know that it is not enough. Regarding the delicate balance between scientific excellence and universal access, we need to encourage our scientists towards excellence in their research, but on the other hand, we shall do our best to try to enable more students to join the system. All of this, of course, depends on our budget, and I am sure that we shall do our best and hope that we will succeed.

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Q: (Name inaudible):
Why doesn't the Planning and Budgeting Committee, which you chair, encourage the creation of more research universities in Israel?

A:
First, as you should understand, our budget is limited; today we support seven research universities, and to tell you the truth I don't think that we support them enough, especially regarding scientific research. Research is very expensive. It is not only the staff members who are running the research and their equipment that must be supported, but also the graduate students doing their Master and Ph.D. degrees, who are the basis for future research. So it's very expensive and we don't have the funds. It's another question if Israel really needs another research university. I must tell you that this matter was discussed by the Planning and Budgeting Committee and we decided that we are not going to open a new research university for the next five years.

Q: Prof. Reichman
The very fact that you made this distinction between the universities and colleges and you stick to it, which was motivated, I understand,

from budgetary reasons, carries over to the discrimination without regard to realities of life. I believe that non-subsidized academic institutions can grow to become very fine research institutions and the approach of the Council of Higher Education is actually to prevent and deny the right of non-subsidized academic institutions, regardless of their academic accomplishments, to become and be treated like universities. As we actually see in real life, we have more and more bureaucratic hurdles to move forward created by the Council of Higher Education in order to maintain this distinction between the university and the college and indeed what it is doing is creating a tremendous burden on the development of higher education outside of the system of funding of the government.

A:
You are right, Professor Reichman. What I said about our decision, it was referring to budgeted institutions. You are talking about institutions that are not budgeted by the government. You are correct. I mean these institutions should go through the system of the Council for Higher Education and Planning and Budgeting Committee first to prove they have the infrastructure needed for a university, that their staff is doing research and that a significant fraction is really involved in research and that they can show they are capable of running what you called a university. You are correct. Our decision is not to such institutions, and we are open to discuss it.

Q: (name inaudible)
There are a number of groups in Israeli society that are under-represented in the higher education system, namely people from development towns, the ultra-orthodox and the Arab sector. They are under-represented because of social, cultural and economic reasons. Now how do you reconcile between this fact and the need to bring them into the higher education system, and the decision not to increase the budget, or the number of students in the higher education system?

A:
Thank you Uri. We have a special program now for the ultra-orthodox group, and we are doing our best and the Finance Minister is helping us, in really developing a special academic program for pushing them

toward our working sector, and there is some success. We are working hard on it and Professor Taler, the Vice-Chairman of the Council for Higher Education, is in charge of this role. We are trying to do our best to pull more and more ultra-orthodox students to our system.

As to the Arab sector, we're happy that the number of Arab students in colleges, both in the North and South, sometimes comes close to, and even exceeds 50% of the students; we're doing our best. We also have a section in our Planning and Budgeting Committee that supports Arab students, giving them the opportunity to join the system. So I think, in general, as you have seen in the table that I showed, there is an increase in the number of students all over the country joining the higher education system, and part of them are Arabs, and I'm really very happy with it.

THE COLLEGE SECTOR – EVOLUTION AND STATUS

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I am a chemist, and in Chemistry we look at the micro system; we try to understand the micro, while examining structure, energy and dynamics. This is relevant to the regulated dichotomy in the system of higher education in Israel, as Prof. Shlomo Grossman presented. Two sectors were presented here and I am proudly speaking on behalf of the college sector, my sector, in which I operate on a daily basis. I believe that universal access to education and scientific excellence do not stand in opposition to one another. If we grant access to something that is not scientifically excellent, then we have a problem. It is done - in many different ways, in several different places, and in different proportions, but colleges don't grow into big universities. Little colleges have a role, an important role, and we cannot compromise on any forms of excellence.

I am from Jerusalem, the poorest of the ten biggest cities in Israel. Even before the state of Israel came into existence, Jerusalem was supposed to be the city of culture and academia. It is now known as the poorest city. Here are a few facts: 19% of all families in Israel are poor, 33% of these families are in Jerusalem, and 64% of the Arab families in Jerusalem are poor. The needs of the city of Jerusalem must be considered when we speak of accessibility. Luckily, I am one of the first speakers, I do not have to give answers, but I do get to ask the questions, so let me start.

We are now living in a society that is knowledge based. In order to administer a change in higher education we have to look not only at specific parameters or factors, we have to look at the paradigm.

Administering Change in Higher Education

Rigidity	***Flexibility***
Dependence	***Independence***
Evolution	***Revolution***
Institutional	***Nationwide***

We have to ask ourselves: should we be as rigid now as we were in the past, or should we be more flexible? Are we open-minded in regard to what we teach, how we teach it, who the teachers are, and who composes the student body? It is not enough to touch one aspect of higher education; we have to look at it in its totality. Much of our discourse surrounds the issues of dependence and independence. Higher education is dependent on the entire society and the entire culture. Our decisions cannot be independent from society; we have to derive our structure and operational procedures from the society around us.

If we speak about evolution and revolution, generally education is very evolutionary. Still, in order to start a process we have to make a big statement, a one-time radical change. We have to redefine structure, we have to revolutionize the technology we use and access, and we have to remember that we live in a real world; we cannot do things that do not speak the language of the real world. None of these "changes" imply that we should forfeit excellence. On the contrary, one of the questions that Prof. Reichman raised was should we examine each institution alone, budgeted or not budgeted, or should we look at the national school system?

My personal feeling, coming from the K-12 educational system, is that the time has come to look at the system from K to C, from kindergarten to college. We need diversity. And while we have to be diverse in what we offer, and attract diverse populations, we must remain excellent in what we do. We need to think differently, and we need to think on a large scale.

Developments in Higher Education

The Feeding Pipes
The System at Large
The End Products

If we look at the development of higher education we must look at the feeding pipe, the system at large, and the end product. Regarding the feeding pipe - people have spoken about the divide between the poor and the rich, people have spoken about numbers and percentages. In the diagram Prof. Shlomo Grossman presented, a growth in the percentage of people admitted to higher education was

indicated. But we have now reached a plateau. In order to be accepted to institutions of higher education, people are required to have a high school diploma. Only fifty percent of Israel's population has reached this level of education. We need to correct that and we cannot continue to look at higher education without looking at the whole educational system in Israel. Returning to the feeding pipe, we need to have more minorities in our school system, as has been mentioned before. In the 70's in the United States, I was considered a minority- a female Jew. Today there is less discourse about opportunities for women because they have more access than ever before. But we should speak about Haredim, the ultra-orthodox, and other minorities, including Arabs.

We need to look not only at the feeding pipe, but also at the system at large; the entire system, including those who work in it; the teachers, how they work, and how they make sure that diversified education is accomplished. Shall we demand research? Shall we grant promotions based on the same criteria that are used to promote teachers at the universities and the other three levels of teaching? Can we distinguish between the teaching college, the research university, and the industrial unit, or should it all be considered one system? How will we ensure that our teachers continue to be excellent? They themselves are a product of the school system, and have studied in the research university system. Most are brilliant. Recent graduates, who are up-to-date with their knowledge, know and understand the importance of what they are doing, and are eager to do it. But what happens five years down the road? Is it important that they do research? Maybe they need a system that would integrate them into learning communities in various subject areas. Perhaps working groups on the varying perspectives of pedagogy, research, and higher education are necessary?

Who will do this? I think it is important to look at the system at large and not only the end product. Yes, we want educated people. My colleagues are fond of saying that all of our secretaries have bachelor degrees. Is it enough to simply be educated or do we need to be experts? Why is there no research for Health Sciences? There is so little clinical research for the health sciences. Can it be done at the colleges? And what about life long learning? Who will take care of that? The universities are busy with research, and rightly so. People

constantly change their professions throughout their lifetime. I changed at least four times. Who will take care of this? Who will make sure that they are retraining at a high level? I think we have to do it.

Positioning Colleges in the Higher Education System

Transition and Transfer
Comprehensive and Specialized

The next question is: what position do we give the colleges in the higher education system? We need to make sure there is transition and transfer. Many people refer to the California system as a model. However, people from California who write about it, emphasize that it is impossible to copy a system without understanding the cultural significance and societal context of that system. In California and throughout the U.S., only 20% of the people who go to community colleges continue on to the next step, to a bachelor's degree. Are they educated? Maybe they are good professionals, but they have not maximized their educational potential. Is it important to have transfer and transition? I personally believe that we should never give up on excellence. I know that different people define excellence in different ways, but maybe we need to generate our own definition of excellence so that we know what we mean when we say it?

Here and Now

Professions become Academic
Professions Disappear
New Professions Emerge

Should the colleges be comprehensive as was proposed before? Presently, there are several comprehensive colleges, and some are professional colleges. Which is better for us? Can we be a comprehensive specialized learning institution? How do we become strong and stable vehicles that people can ride on to higher rates of success and a better future? I think it is our responsibility to give people more opportunities to succeed. What happened to professions? Professions became an epidemic. My mother was a teacher who studied in a teacher's seminar in the 40's. My daughter is also teacher;

she completed a bachelor's degree in Education at a university. Is she a better teacher? A friend of mine is a nurse, one of the first nurses to graduate from the Hadassah Medical Organization. Now they call it nursing; not a registered nurse, but a nurse with a bachelor's degree. The patient did not change too much, but the remedies did change. People need to know how to work a computer, how to collect data, and how to work with the information they acquire. Professions change. People used to work in print, using black ink and chemicals and now they do graphics and printing using computers. It is a totally different profession. So some of the professions have become almost academic; the old professions are disappearing and new professions form in their place. You no longer go to the library; now you go to the information resource center. The staff at these centers are not only librarians, but they are also experts in informatics. You need people in your office that are officers of knowledge. Chief Knowledge Officers- CKO. People have to do different jobs. Are we educating them in a way that is meaningful? Does it make us less excellent or less committed?

And it All Boils Down to Money

Accountability
Quality Assurance
Professional Development

But as my chair, Shlomo, says, it all boils down to money. And justifiably so. You have to be accountable. There must be quality assurance and professional development. I know it all boils down to money, and I know that the pie is not endless, but we have to make tough decisions. Most of those decisions are made in a political and societal environment. If we want to have quality assurance, we need to first make sure we can answer the question: "quality of what?" Do we look at the process? Do we evaluate the end product? Do we analyze the connection between the goal and the end product? How can it be done? If universities and colleges are different, should we look at their differences and still judge them by the same criteria? I think not. We must talk about the people that make the institution. Those people are the teachers. If we don't have a support system, a real support system that enhances the abilities of the educators, then

they will be teaching what their grandparents learned and they will not advance.

If we want to teach our teacher how to advance the wheel, we need to make sure that there are roads so they won't kill themselves.

THE MOMENT OF TRUTH

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The creation of the Israeli Higher Education System began with universities and not colleges. As such, it was built in a top down and not bottom up manner.

In 1948, when the State of Israel was established, there were already three universities in existence: the Technion, which opened its gates in 1924; the Hebrew University, established in 1925 as a true Humboldtian research university; and the Weizmann Institute, established in 1936 as a dedicated, high quality research institute. These were followed, post-state, by the Tel Aviv University (1956), Bar Ilan University (1959), Haifa University (1963) and Ben Gurion University (1970).

Though at the time, in the early 1950s, there were already many post secondary educational institutions, the higher education system, in both the public and governmental perceptions, was identified and equated with the universities. It is not surprising, therefore, that the Law of Higher Education, legislated from 1950 to 1958, and the legal pillar of our whole system, which established the Council of Higher Education as the sole legal accreditation body, focuses primarily on universities.

The enactment of the Council of Higher Education and the ensuing creation of the Planning and Budgeting Committee concluded the first stage in the evolution of higher education in Israel, and set the foundations, standards and principles upon which it rested for decades, and which are now beginning to crumble.

The growing demand for broader access to higher education, which already began to assert itself in the late 1950s and has continued ever since, ushered in the second stage in the evolution of higher education in Israel, the transition from elite to mass higher education. This took place in two steps.

First, there was a concerted effort to increase the number of qualified applicants to the universities by creating a network of 'second chance' academic preparatory schools. This program was initiated by the Council of Higher Education in collaboration with the Ministries of Education and Defense. These schools offered training programs for those who failed in high school, and for army veterans who, after a long period of military service, needed to refresh their knowledge. This was a very successful initiative which has sustained the test of time.

The second step was the creation of a network of colleges granting academic degrees. Thus back in 1971, the Council of Higher Education appointed the 'Shneor Lipson Committee' which recommended:

(a) the gradual development of a network of colleges via the academic accreditation of appropriate post-secondary educational institutions;
(b) the establishment of an Open University; and
(c) the creation of a center for post-secondary education attached to the Council of Higher Education.

This latter policy has, ever since, been consistently followed by the Council of Higher Education, in spite of some 'knee jerk' opposition by universities, which took their time in comprehending that the colleges are, in fact, a 'safety belt' around universities, protecting them from politically driven expansion and open admission policies.

As far as I recall, the issue of broad access and the need for colleges spilled over into the vocal public and political arena in the 1980s. At that time, I was a member of the Council of Higher Education, and as I recall, the demand for broader access and new colleges came from the circles of the powerful and rich lawyers, on the one hand, and from ordinary mortals such as engineering technicians on the other.

At the time, law could only be studied at the universities, the demand was high, and the academic requirements were tough. As it turned out, not all the sons and daughters of the leading lawyers could get in and they were forced to send their children to study law in England. Consequently, the lawyers applied enormous pressure on the Council of Higher Education and the Minister of Education at the time, to set up colleges where law could be studied, and allow them to grant academic degrees. They succeeded. In fact, they overshot their

mark because the number of law graduates became so high that their profession became threatened!

The technicians' story is different. Israel used to educate large numbers of senior engineering technicians. However, for the many who wanted to continue their studies towards an academic degree, the universities were unresponsive. Ultimately, many went to the United States where they enrolled in second and third tier universities. These had more liberal acceptance policies, and within one or two years these students were able to obtain engineering degrees. This issue was picked up by the Knesset and became politicized. Accusations were leveled against the universities that, because of their 'ivory tower' policies, young men and women must leave the country.

Against this backdrop, the universities gradually – rightly or wrongly – began to be perceived as conservative strongholds, holding on to their turf and blocking the expansion of the higher education system. Nevertheless, the second stage of the evolution of the higher education system was a great success. Many new academic colleges were set up with the active support of the Planning and Budgeting Committee and the Council of Higher Education.

Noteworthy is the period in the 1990s when a systematic, proactive, yet controlled program of expanding the academic degree granting colleges was enacted by Professor Amnon Pazi during his tenure as chairman of the Planning and Budgeting Committee, and his successors. The intention was clearly to create a lower cost-per-student, non-research body of colleges, side by side with the universities, and thus expand access and retain excellence in science. At the same time, particularly as a result of the massive Russian immigration, the universities also expanded their student bodies very significantly.

The result is a higher education system consisting of seven research universities, an Open University, and 53 institutions of tertiary education, among them academic, regional, technological, teacher training, and private colleges, with 168,000 students and an additional 32,000 in the Open University, 114,000 of which attend universities.

This brings us to the more problematic third stage of the evolution, which began in the last few years, though its roots go back to the mid

1990s. In this last stage, and in the wake of the major expansion of the higher education system, the regulatory institutions overseeing it started to exhibit weaknesses. They began yielding to political and other powerful forces, undergoing transformations, and by-and-large, failing to meet key elements of their original mission.

In fact, a mismatch between their original mission and reality began to surface which is being exploited by some. This has primarily affected the status and quality of the research universities, but in my opinion, in the final analysis and in the long term, it is just as detrimental to our colleges as well.

It is this third stage of evolution that, I believe, has brought the whole system to a crisis and to its *moment of truth*, because it's resolution may determine the nature and quality of Israeli higher education for years to come, and perhaps indefinitely. This is the reason for convening this international colloquium, to try and learn from the experiences of other countries in their transition to mass higher education.

Now, I will briefly discuss the reasons, sources and the nature of the crisis as I see it. By regulatory institutions, I am referring primarily to the Council of Higher Education, which is the sole body mandated by a Knesset Law with jurisdiction over the higher education system, and the Planning and Budgeting Committee, set up by a governmental decision, which disburses the budget allocated to the system.

Operating in parallel, and creating some checks-and-balances, are two voluntary associations: the Council of University Presidents (and the new Council of College Presidents) and the Council of Faculty Unions (dealing only with professional issues).

In the background, however, is the all powerful Budgeting Department of the Ministry of Finance, which allocates and controls the funds to the Planning and Budgeting Committee. Additional important players are ambitious cabinet ministers and Knesset members, who frequently intervene via the Knesset or the government itself, (sometimes for better, sometimes for worse) into the affairs of the higher education institutes, and in particular the universities.

It took six years of deliberations by the Knesset in the 1950s to hammer out The Law of Higher Education of 1958 establishing the

Council of Higher Education as the national body overseeing all higher education activities, such as chartering universities, approving study programs and granting the right to award academic degrees. This law is the pillar on which the whole system rested for decades.

The Law of Higher Education specifies that two-thirds of the members of the Council must be individually appointed, internationally renowned scientists of high standing in the higher education system. This requirement was intended to ensure that national higher education and academic policies were placed in the hands of scientists rather than politicians and bureaucrats. No less importantly, it granted universities (and other higher education institutions) full autonomy over managing their academic and administrative affairs within their allocated budgets.

It is, perhaps, interesting to analyze the reasons behind this lengthy legislative process[1].

Shortly after the creation of the State of Israel, the government, dominated by Ben Gurion's MAPAY party, matter-of-factly and without hesitation intended to use the universities as a nation-building tool in the hands of the state. Only the stubborn resistance of members of the Knesset of the *opposition parties* at the time (Elimelech Rimalt and Shoshana Persitz from the General Zionist Party, Yochanan Bader and Raziel Naor from Herut –and others, precursors of the current Likud Party) prevented that.

They insisted that the Council would not be made up of governmental representatives as suggested, nor of representatives of universities, and certainly not politicians, but rather of leading, individually appointed scientists, representing not their institutions but only themselves. This is necessary, they correctly argued, to ensure that the system will not be politicized, and that their decisions will be accepted by the academia without question, by virtue of the prestige of the members of the Council.

They were also the ones who insisted that full autonomy be granted to the universities, in order to secure total academic freedom for their faculties, which is a prerequisite for high quality scientific research, both in sciences and the humanities.

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[1] Dr. Ami Wolansky, Academia in a Changing Environment: Israeli Higher Education Policy, 1952-2004. A publication (in Hebrew) of the S. Neaman Institute, 2005.

The creation of the Planning and Budgeting Committee took not six but 20 years of deliberations until it was established in 1977 via a formal governmental decision (666) at the very end of Rabin's first government. The Planning and Budgeting Committee, modeled after the British Grants Committee, is an independent subcommittee of the Council of Higher Education and is chaired by a senior faculty member.

The status and mission of the Planning and Budgeting Committee were defined as follows:

1. To be an independent buffer entity between G & HE institutes in all matters of budgeting;
2. To recommend operational and development budgets based on national needs, while protecting academic freedom and promoting research and education;
3. To perform budget disbursement between higher educational institutes;
4. To recommend development plans;
5. To promote efficiency and collaboration between the institutes;
6. To monitor spending;
7. To advise the Council of Higher Education on new institutions and programs.

The Council of University Presidents (and more recently the Council of College Presidents) and the Council of the Faculty Unions are voluntary organizations, but often play key roles in formulating national policies by their action or inaction.

For about 30 years this rather delicate and complex system, with its checks and balances, has operated with surprising stability. But as a result of a series of events and developments during the last decade or so, these institutions and bodies have begun to dysfunction, putting at risk all that has been achieved.

First came the weakening of the status and standing of the Planning and Budgeting Committee, and its capacity to guard and protect the higher education institutions from inappropriate governmental intervention. This was the consequence of a gradually deteriorating relationship between the Planning and Budgeting Division of the Ministry of Finance and the Planning and Budgeting Committee.

For a long time, a close and trusting relationship existed between the Planning and Budgeting Committee and the Budgeting Division of the Ministry of Finance. This became the foundation on which the stability of the whole system rested. Three former heads of the Planning and Budgeting Committee, two of whom are present here today – Professor Haim Harari, Professor Jacob Ziv and Professor Amnon Pazi – who jointly represent almost two decades of collaboration, can attest to this fact. One positive result of this trust was that five year budgeting plans were agreed upon by the two, which enabled long term planning. No other entity or body, not even the IDF, enjoys this privilege. The other was that the Ministry gave the Planning and Budgeting Committee a free hand in handling and disbursing the budget it allocated to the whole system. During this period, the Budgeting Committee of Finance was the *guardian angel* of the universities.

The roots of the crisis between the two, and the alienation between the Ministry of Finance and the universities go back ten years to the Faculty Strike of 1994. At that time, I was president of the Technion and personally involved in all the developments that took place. In a nutshell, what happened was that the faculty unions demanded a salary hike. The Council of University Presidents, which was united and cohesive at the time, supported the demand, because we felt that the unreasonably low faculty salaries at the time placed the future quality of the universities at risk.

A public commission was appointed by the Council of University Presidents (with the tacit agreement of the Minister of Finance), which recommended a salary hike of about 30%. The government at the time was ready to accept the recommendations, but the faculty rejected it and demanded three times as much. A strike broke out that lasted three months, ending with a roughly 30% salary hike plus some not insignificant bonuses.

The Ministry of Finance's interpretation of this experience was that the faculty unions controlled the Senates and the universities, and that this attested to the university managements' incapacity to rule. Though this was far from being accurate, the government, via the Planning and Budgeting Committee, appointed a public committee, the Maltz Committee (headed by retired Supreme Court Judge Yaakov Maltz), to examine and recommend appropriate changes in

university governance that would reduce faculty power and strengthen outside controls and presidential power.

The main recommendations were:

1. Adopt unitary governance headed by a president (as opposed to the unique, Israeli, dual president-rector governance practiced in most universities).
2. Redefine the role of the board of governors. (While the board formally remains the supreme governing body of the university, in fact it can only ratify decisions made by the council.)
3. Appoint a centralized council which holds extensive executive powers.
4. Adopt a small 71-member Senate to replace the current, very large senates.
5. Appoint deans rather than elect them.
6. Retain the autonomy of the university.
7. Secure students rights.

The committee's recommendations were sent to the universities for study and comment. Now, after the faculty unions committed an error in judgment by prolonging the strike with excessive demands, the universities followed suit, delaying any serious discussion on the Maltz Committee recommendations and virtually rejecting them, even though quite a number of them were constructive and positive (e.g. a unitary governance with a president as a CEO).

This action, or rather inaction, towards willingly adopting any change, was interpreted by the government as a 'slap in the face' and from this point on, the "offended" government made a series of attempts to forcibly enforce the recommendations on the universities via legislation. Then, after failing at this, though not for lack of trying, in the end they forced a joint committee of the Council of Higher Education and the Planning and Budgeting Committee to impose a governance structure on the universities and colleges which is roughly an extreme derivative (minority opinion of the representative of the Finance Ministry) of the Maltz Committee recommendation.

The cynicism of the "evidence" offered by the government for this rape of university autonomy staggers the imagination. They claimed that the huge deficits accumulated in the universities are the result not of brutal cutbacks in budgets (20% in four years) but the inappropriate

governance structure of most universities. Therefore, their governance must be immediately reformed.

The untested governance that was imposed on the universities and colleges has very serious flaws. Nevertheless, the universities, under heavy financial strain, surprisingly or not surprisingly yielded without a fight, even though this act of the Council of Higher Education and the Planning and Budgeting Committee was a clear violation of the Law of Higher Education, which as you recall, granted universities autonomy in managing their affairs.

It is sad and discouraging that the Council of Higher Education and the Planning and Budgeting Committee, the bodies whose "raison d'être" is to protect the independence of the higher education system, became the tool for its violation.

Professor Shlomo Grossman, the current head of the Planning and Budgeting Committee, and the members of his joint committee now claim the Law wasn't really violated, and the new governance was not imposed on the universities by force because the presidents *themselves* agreed to impose it on their institutions. But, Shlomo, with all due respect, the most generous view of this argument would be to say that the presidents received, in the spirit of Marlon Brandon's Godfather, an "offer they couldn't refuse..."!

The bottom line of these events is that the Planning and Budgeting Committee unfortunately no longer enjoys its previous status. Finance doesn't respond as it used to, it is no longer the guardian angel, and decisions are being made in the government, Knesset and the Council of Higher Education, contrary to its better judgment. Professor Grossman is trying valiantly to rebuild an atmosphere of trust, but his efforts may be like trying to squeeze the toothpaste back into the tube…

In parallel to the weakening of the Planning and Budgeting Committee, came what could be termed, at best and in the most delicate way, as the taming of the Council of Higher Education by Minister of Education, Culture and Sport, Ms. Limor Livnat, and its conversion into a tool for promoting a particular agenda.

All former ministers of education coming from the left or right or religious parties acted as chairs ex-officio of the Council of Higher Education as stated by law, and didn't try to change it or subjugate it

to promote personal or political agendas. Not that they didn't have them. They also upheld the tradition of appointing a retired Supreme Court judge as vice chair, which offered prestige and secured strict observance of the law.

Ms. Livnat diverged from these practices and has been acting more like the *head* of the Council of Higher Education rather than its *chair*. Moreover, she is increasingly perceived as the real head of the system, and with growing frequency, people from academia and outside turn to her in matters of higher education. This was not the intention of the law makers. They recognized the conflict of interest between the person in charge of all the country's massive educational system and the more delicate higher education system. That is why they created an independent Council of Higher Education and made the minister only chair ex-officio, and didn't incorporate higher education into the Ministry of Education and Culture.

Contrary to tradition, Ms. Livnat failed to appoint a retired Supreme Judge as vice chair of the Council of Higher Education, yet she selected and appointed, for the first time, the director of the Planning and Budgeting Committee, which irrespective of the qualifications of the person appointed, as high as they may be, has violated the strict non-political status of this important body.

Moreover, after publishing a rather vitriolic attack in the press on the universities as bastions of ossified professors whose main goal in life is to protect their turf, she forcefully reshaped the Council of Higher Education with the declared objective of reducing 'university representation' (although by law, members from universities are not representatives of their institutions) to minority status and boosting college representation. She justified it by the fact that the law requires that the Council of Higher Education members come from a variety of institutions, but disregarded the fact that the new Council of Higher Education may not meet the other more central requirement of the law, requiring that 2/3 of its members be 'scientists of international reputation and high standing in the system'. Clearly, reality changed and the law must be updated, because it is hard or impossible to meet both requirements. And perhaps instead of 'stretching the jacket to the breaking point' to fit reality, we should begin a serious dialogue reconsidering the structure as a whole system, keeping in mind the supreme national interests.

The motivation for the change, she claimed, was to overrule the 'professors' who blocked the promotion and approval of colleges and their academic programs. There surely may be some resentment on the part of the colleges against the "old" Council of Higher Education, but as I mentioned above, it was the 'professor dominated' Council of Higher Education back in 1971 that appointed the Shneor Lipson Committee which launched the development of a network of colleges and the Open University, and since that time, in all subsequent Councils prior to its reform, there has been a continuous stream of approval of colleges and their academic accreditation.

This "new" Council of Higher Education is quickly changing the higher education scene, and in my opinion, without sufficient foresight, discussion and public debate:

- It is this "new" Council that approved setting up the joint Council of Higher Education / Planning and Budgeting Committee to reform university governance, which violates university and college autonomy.
- It is this "new" Council that approved research MS degrees in colleges, and which is about to set the rules for colleges to become universities. And, clearly, within the constraints of limited resources (and an eroding total allocation of budgets to higher education), this last development must come at the expense of the universities, thereby threatening their quality.
- It is this "new" Council of Higher Education and Planning and Budgeting Committee that is about to set up a cumbersome, central bureaucratic quality control system that may be the final 'coup de grace' to university autonomy.
- Finally, it is this "new" Council of Higher Education that passes resolutions voicing opinions which are, I believe, way outside the legal mandate of this body.

In view of the signals and messages coming out of the Council of Higher Education and Planning and Budgeting Committee, and in the midst of unprecedented budget cuts, it seems that we are well on our way towards ending up with a large number of mediocre universities, rather than high quality research universities and high quality colleges, each serving different functions, meeting excellence and accessibility side by side.

Yet the blame for these developments doesn't lie entirely with the Council of Higher Education, the Ministry of Finance or politicians, though they bear a great share of it. The universities and faculty share at least part of the blame as well.

First, as I mentioned above, the faculty unions overplayed their hand; second the universities unjustifiably rejected, with some arrogance, the recommendations of the Maltz Committee in totality; and third, they isolated themselves and didn't initiate a positive dialogue with the college leadership to try and hammer out consensus on the future of the system as a whole. The Council of Presidents, as far as I know, never had a joint meeting with the college presidents. Fourth, the universities failed to adopt an open, generous policy for transfer of college students to universities and acceptance of their bachelor degrees towards advanced degree studies; fifth, universities neglected to initiate a productive dialogue with the government and parliament. The dialogue was almost always confrontational in response to actions taken by the latter. Sixth, they failed for a long time to reach out to the underprivileged members of society and introduce careful affirmative action. This is particularly important because the widening gap between the center of the country and the periphery runs along ethnic lines. Seventh, the faculty as a whole has acted as a bystander, showing no willingness to stand up for protecting the independence of the academia.

The overwhelming blame, however, does lie with:

1. The Budgeting Division of the Ministry of Finance, for leading an aggressive, unfounded intervention into university governance, in violation of the law;
2. The government, for implementing devastating budget cuts that place research universities at risk, and
3. Minister Limor Livnat for her policies that place research universities and the independence of the academic system at risk.

So the story of the higher education system in Israel, as any good story, has many protagonists, some heroes and some less noble. But unless a new social contract is worked out and colleges and universities work together with government and lawmakers to agree on how to secure access side by side with excellence, we may end up

with a big, messy, market-dominated and mediocre system. This is a great risk in a society where democracy is shallow and where universities and colleges have such an important role to play in strengthening its foundations; and in which the economy and even sheer long term survival as a free and independent nation depend so much on the quality of graduates and of scientific research which takes place at the research universities.

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Q: Micha Berkuz

Who do you think will sit in this dialog, given that the Council of Higher Education is not what it should be and certainly that the government has not been interested so far in getting into any serious dialog?

A:

First of all I think the Council ought to play an important role. And I think that the Planning and Budgeting Committee ought to be partner to the Council. Perhaps some sort of a commission ought to be created by the Israel Academy of Sciences, the Planning and Budgeting Committee and Council of University Presidents in order to look at the long-term prospects and consequences of what is going on and to 'rethink' the system. Moreover, faculty members ought to stand up and become involved rather then watch as bystanders what's going on.

From my experience in the Knesset, we may find many friends. I have been talking to many Knesset members, and many of them are sympathetic. But, they are not approached. Many of them understand the seriousness of the problem, but they have other problems and they are busy with other things, and if you don't go and talk to them, they won't do anything. There is even a lobby of Knesset members for the Academy which could be motivated into action. In conclusion, I believe a lot could be done to create a movement in order to change things, because the risk of doing nothing is too high.

Q: Mordechai Schechter

You have just said that a committee of Council of University Presidents and Planning and Budgeting Committee should be set up to think about reshaping the system. There is a third party called Council of College Presidents…!

A:

That is the problem, you see, I and we in general at the universities got used to one kind of thinking, because of lack of a dialog. If there was a dialog between universities and colleges, it wouldn't have happened to me. I am sorry. Of course the Council of College President should be involved.

THE STATUS OF ACADEMIC EDUCATION AND RESEARCH UNIVERSITIES IN ISRAEL
Warning Signs and Policy Guidelines

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Abstract

The Bashaar-Academic Community in the Service of Israeli Society recognizes its right and obligation to address the development of the Israeli higher education system, particularly its research universities. To this end, Bashaar appointed a committee for higher education policy, whose final report, submitted in June, 2004, addresses:

1. The goals and achievements of Israel's higher education system;
2. The structure of the system and principles of research university governance;
3. Reciprocal personal and institutional obligations of academia, research universities and their faculties to/from society.

The report finds that the scientific-technology strength of Israel is threatened on several fronts, including: the deterioration of science education, division of the educational system into ideological networks, under-representation of various social sectors, emigration of science and technology brain power, decreased involvement of university researchers in defense R&D, and serious deterioration in the academia-government relationship. Unprecedented cuts in government allocations to higher education, 20% over the last four years, have led to a sharp decrease in resources for high-quality research activity, and the hiring of outstanding young staff. Taken together, these trends represent a very grave danger to Israel's economy, society, security and status as a progressive country, and extend to the very existence of the State.

To preserve and improve the system, the report calls for strict adherence to three basic principles - "red lines" whose crossing would threaten the system's survival:

1. Safeguarding the autonomy of the system and protecting it from political intervention;
2. Maintaining a broad base of support in Israel and the Jewish world;
3. Maintaining the central role of academic staff in academic matters, to sustain excellence in research and teaching.

The report proposes policy guidelines, including a framework for responsible change, and concludes with major challenges for the future.

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Introduction

Research universities are one of the main sources of Israel's strength, because the country's economy and security depend in no small measure on the nature and quality of their scientific research. High-tech industries – involving computers, electronics, communications, chemistry, pharmaceuticals, diagnostics, biotechnology and nanotechnology – are keystones of Israel's advanced modern economy. When there is peace in the region, there is also significant, regional technological-industrial collaboration and tourism. Israel's high-tech computer and chemistry-based industries are based on technology arising from innovative scientific research carried out almost exclusively at Israel's research universities (and a few security-related R&D institutions). Israel must, therefore, take good care of its research universities, because to do otherwise seriously endangers its future.

Recent years have seen steady erosion in the independence of Israel's institutions of higher education, in particular, its research university system. The unwarranted and unwise intervention by politicians endangers the future excellence of Israeli universities and science. Such interventions include:

- Repeated attempts to force universities to accept open enrollment;
- Political involvement by the past Prime Minister in the public committee charged with setting tuition fees;

- Government decisions to change university enrollment qualifications;
- Initiatives by the present Education Minister that changed the composition of the Israel Council for Higher Education (CHE);
- Sweeping budget cuts (20% in four years) resulting in university deficits, that have been cynically cited by the government as evidence of faulty management and poor organizational structure;
- The Budget Arrangements Law which forces the CHE and its Planning and Budgeting Committee (PBC) to carry out government-dictated reforms to allegedly achieve greater effectiveness, while flagrantly violating Section 15 of the Council for Higher Education Law (1958);
- Compromising the position of the PBC by instituting a new mechanism for approving its decisions by the Treasury's Budget Division;
- Implementing a risky process of centralized bureaucratic control to oversee educational quality and implementation.

For those not familiar with Israeli legislation, Section 15 of the CHE Law (1958) guarantees the academic, institutional and administrative autonomy of Israel's universities. It explicitly recognizes that:

- Almost all basic scientific research will be carried out at Israel's research universities (still true today);
- Scientific growth and top-quality science education are not possible without academic freedom (still true today);
- Only institutional autonomy can guarantee long-term academic freedom and top quality science (threatened today).

The Law embodies three key foundations of Israel's longstanding *de facto* science policy.

- That Israel's basic scientific research should be carried out at Israel's existing research universities, rather than in separate government-sponsored research institutes (as in Eastern Europe and France);
- That the research university system must be independent and autonomous, with the PBC serving as an independent buffer between the universities and the government;

- That there must be appropriate functional, structural and budgetary differentiation between the research universities and other higher education institutions that do not undertake basic research.

The current situation seriously threatens these foundations of Israel's science policy.

In light of these dangerous developments, Israel's voluntary, academia-based *Basha'ar* association, whose primary concern is social action, has established a Committee for Higher Education Policy, to examine the status of the nation's higher education system, in general, and its research universities in particular. The members of this committee, in addition to myself as chairperson, are: Prof. Hanoch Gutfreund, Past President of the Hebrew University, Prof. Itamar Greenvald, Tel Aviv University, Prof. Elia Leibovitz, Tel Aviv University, Prof. Hagit Messer-Yaron, Tel Aviv University, Prof. Dan Amir, Tel Aviv University, Prof. Zehev Tadmor, Past President of the Technion (Chairman), Attorney Avi Ronen (Coordinator).

In April 2004, the committee's report was presented at a special meeting held at Israel's Presidential Mansion, and was widely disseminated among national and university leadership. The report seeks to identify and discuss major recent development trends in Israel's higher education system, and to identify troubling warning signs. It also seeks to formulate "red lines" to limit hazardous processes and to propose required policy guidelines for the future to help safeguard past achievements and enable responsible improvement.

The structure and goals of Israel's higher education system

Israel's higher education system is highly diversified. It includes universities, colleges and community colleges, each with their own specified tasks. There is also an attempt to ensure student mobility between the different types of institutions which, as elsewhere, differ in perceived status. The academic and budgetary differentiations between the various types of institutions reflect their different roles and mandates. Due to rising student numbers and expectations, Israel does need to cautiously expand the overall system; however it must also withstand political pressures, which, while popular, could result in the "mediocritization" of the system. These dual needs could be

well served by an independent, national control mechanism, which would require enhancing the independence of the CHE and PBC, which have been compromised in recent years.

The "red lines" that must not be crossed in this process are equally straightforward. Israel must:

- Avoid politicizing its higher education system and safeguard the research universities from inappropriate political interventions;
- Guarantee public support for the research universities by public leadership, both within Israel and throughout the Jewish world;
- Preserve the central role of academic faculty in the university's academic affairs.

Using these criteria, the *Basha'ar* Committee's recently completed report concluded that, in Israel, the research university is currently at risk.

To better understand this risk, we must first consider the goals of Israel's (and most other world-class) universities:

- To increase and disseminate human knowledge, and serve as an authoritative source of scientific truth;
- To train leadership in all disciplines: liberal arts, social sciences, law, medicine, engineering, economics, administration and exact sciences;
- To preserve and develop national culture values and democracy;
- To create and transfer modern technologies;
- To actively support social equality by providing opportunities for social mobility;
- To calibrate the level of Israel's scientific-technological achievements;
- To contribute towards Israel's international relations and image, and to promote its sustainable relationships with the Jewish world.

To what degree has Israel's research university community succeeded in promoting these goals? And, if indeed it was successful, was the price too high – as the government now seems to claim?

Israel's scientific achievements and their cost

The high quality of Israel's science was recently highlighted by the awarding of the 2004 Nobel Prize in Chemistry to two Israeli

scientists, Profs. Avram Hershko and Aaron Ciechanover of the Technion. While this constitutes the unparalleled international recognition of Israeli science, Israel's research system has long been one of the most productive, ranking third in one recent study. Israel produces about 1.2% of the world's scientific journal papers and Israeli research tends to be of exceptionally high caliber, as measured by citations of its publications by others. The table below gives the world-ranking of Israel's citations *per capita* for 13 selected fields (i.e., Israel was first in the world in Computer Science citations per capita in 1993-97). Israel is also consistently higher in scientific ranking compared to other countries of similar wealth intensity (see *Nature*, 430, pp. 311-316, July 2004).

Ranking by Citations of Publications

Field	**1993/1997**	**1996/2000**	**1999/2003**
Computer Science	1	4	3
Chemistry	4	7	5
Physics	9	7	8
Astrophysics	6	6	1
Biology & Biochemistry	3	7	10
Clinical Medicine	23	28	31
Economics	2	2	2
Engineering	18	11	12
Immunology	15	15	15
Molecular Biology	8	5	2
Materials Science	4	2	1
Mathematics	13	21	12
Social Sciences	18	18	25

Nor are the achievements of Israel's scientists limited to basic research publication; they directly affect Israel's economy and society. Agricultural research at Israel's universities and research institutes has led to remarkable advances in agricultural productivity. Close cooperation with Israel's defense establishment has made the latter's R&D system one of the best in the world. Israel has become a recognized leader in such "future-oriented" fields as nanotechnology and biotechnology. Israel's scientific-technological research and trained manpower have made Israel's (equivalent of) "Silicon Valley"

fourth in the world – after those of California, Massachusetts and Sweden.

All Israel's major accomplishments in the liberal arts, Jewish studies, economics, social sciences and archaeology have come from the universities. In particular, its outstanding legal system originated within its universities. In brief, the Israeli research and scholarship system provides the basis of the values, standards, norms and image of the State of Israel.

Was the price for this exceptional, world-class scientific-academic success really too high, as some politicians and government officials now wish to claim? The facts show otherwise, with Israel's expenditures being largely "bargain basement" low on an international scale.

An international comparison of top university budgets is particularly relevant and revealing. Israel's seven research universities serve a total of 112,000 students, using a total budget of $1.41 billion, of which only $860 million comes from the Treasury. That is, the research education of Israeli students "costs" about $12,500 per student. This is far less than for students at:

- MIT (10,300 students, $2,28 billion), which charges $162,000 per student
- Harvard (20,000 students, $2.28 billion), which charges $140,700 per student
- Eidgenoessische Technische Hochshule (ETH)/Switzerland (11,500 students, $800 million), which charges $69,500 per student
- Oxford (16,500 students, $771 million), which charges $46,700 per student
- U. of Michigan (35,750 students, $1.10 billion), which charges $30,000 per student
- Sussex (9,500 students, $136 million), which charges $14,300 per student.

One might also consider the giant but high-quality, mass-access oriented University of California (UC) system. In 1988 the UC system had about 160,000 students, nearly 160,000 employees divided between campuses, and an annual budget of $11 billion ($8.5 billion excluding the national laboratories). Its cost per student was thus about $53,000 (M. Trow, Higher Education Policy, March 1988); and

its academic governance and success are often held out as a model for others.

Government intervention: help or hindrance?

Given such a record, unmatched by any Israeli public institution, one might well wonder what political interference in such a professionally complex and capable area could add. The answer is … danger.

The Israeli government now hopes to improve the alleged "inefficiency" of this outstanding system by imposing a strong, centralized, external administrative structure on the universities (something already tried with predictable results in Eastern Europe). To further demonstrate its commitment to Israel's continued educational and research excellence, the government has cut the universities' budgets some 20% within the last four years. No institution can cope with such sweeping cutbacks over such a short period of time, regardless of its administrative structure.

In brief, Israel's research universities are being threatened, and their historic achievements are at risk. Budget cuts will slowly but inexorably reduce the quality of Israel's universities, resulting in a loss of high caliber students and faculty ("brain drain"). Simultaneously, other government initiatives jeopardize academic independence, violate the Higher Education Law of 1958, and compromise the independence of the PBC (and thus the crucial prior separation between long-term university goals and short-term national politics). Others impose an inappropriately strict, uniform and commercialized administrative structure on academic activity. Recent decisions of the government-"reformed" CHE have exacerbated matters by establishing research *colleges*, centralized examination of academic-research activities, etc. Questionable in their own right, such decisions have weakened the CHE's prior effectiveness as a protective "buffer" between academia and government.

Instead, Israel needs to return to such basic principles as ensuring academic and administrative autonomy, and both individual and institutional academic freedom to the research universities. Although appropriate external academic quality control mechanisms can indeed be useful, they must be implemented on a case-specific, individual basis at each institution.

What's wrong with the government's pending reform plan?

The Israeli government's reform plan is being forced upon Israel's universities by political fiat against their will, in violation of the Higher Education Law (1958). The plan seriously erodes institutional independence, and even prohibits universities from making any internal structural changes without prior PBC approval. The reform provides for a small university executive board that holds almost all the authority and replicates itself indefinitely.

The over-concentration of power in the proposed executive board could easily push suddenly weakened universities in unwanted and undesirable directions, and make universities vulnerable to both politicization and commercialization. An overly strong executive can also attract aggressive individuals with special interests. The university's executive board must be a supervisory body rather than an executive body, as the latter undermines the authority of the university's president and administration.

The reform needlessly forced Israel's rich diversity of universities to accept an identical, highly centralized organizational structure. "One size fits all" is not a policy suited for running any university, since it ignores the university's goals, traditions and unique qualities.

The reform seriously restricts the authority of a university's board of governors, which, from now on, will only be permitted to ratify the decisions of the executive board. Despite their collective success, experience and talents, the board of governors will henceforth become, in essence, a "donors' club" – stripped of power but still bearing full legal responsibility for the university under the provisions of Israel's Companies Law! Such a move is also an insult to the university's donors, whose major financial (and other) contributions to the universities have matched government funding, enabling Israel to establish universities of the highest caliber. This governmental intervention will lead to the gradual alienation of a generation of donors from the universities and the State of Israel, with negative consequences for both.

Equally serious, the government's "reform" erodes the central role of faculty in academic matters. At universities, almost all important decisions are ultimately academic in nature, and faculty must be intimately involved in making these decisions. Removing the faculty from the circles of influence results in a lack of supervision and

direction from the very people that comprise the university. It will also alienate the faculty from the university administration, making it increasingly difficult to find top-quality young staff members. Israel's best and brightest young scientists will not storm the barricades in protest – they will simply buy airplane tickets.

The end result will be to turn Israel's vibrant and diverse community of research universities into government institutes for teaching and research, whose quality will decline over time. In brief, this "reform," in conjunction with severe government budgetary constraints and the creation of "research colleges", borders on alarming irresponsibility. That being said, a unitary administration would seem the optimal structure for university governance, not because of administrative efficiency, but rather for academic reasons. This, however, could and should have been achieved by persuasion, not coercion, as it was proposed in the Maltz Committee Report. It is also true that the function of the university senate needs improvement, but there are much better ways to accomplish this.

While the Israeli government may be the major "guilty" party in the current crisis, it is *not* the only one. The universities themselves are not entirely blameless. For example, academic faculty organizations used the academic senates to press salary demands in 1994, thus giving the government the notion that the professors and senators constituted a self-promoting professional organization. The universities also refused to discuss the recommendations made by the Maltz Committee on Higher Education in 2000, avoiding any form of self-initiated structural improvement and, to a certain degree, bringing the current, externally imposed "reform" upon themselves.

In brief, although everything is not in order with the current higher education system, and changes and improvements can be legitimately proposed and debated, we must deal responsibly with genuine problems, rather than with imaginary ills, as the government has done.

So what should be done?

We can and perhaps should formulate a new charter for the structure of Israel's system of higher education, but it must be one that will both safeguard academic excellence and expand access. The University of California system might provide one useful model deserving further

attention, both from the government and the universities themselves. However, we must strenuously avoid any tendency to establish crucial public institutions on the basis of ideological, ethnic or local principles, or short-term political expediency. While guaranteeing the system's autonomy, we must establish new frameworks for research university activity to promote highest-quality higher education, outstanding scientific research and the transfer of new knowledge and technology.

There should be serious public debate on the methods and scope of Israeli funding for higher education, including:

(a) internalizing the close relationship between the system's quality and the future of Israel's economy and defense;
(b) differentiating between research universities and colleges;
(c) searching for long-term alternatives to donations from abroad.

We should examine alternative methods for financing public institutions, for example, those in which the government supports students rather than institutions, and funds research rather than researchers.

We should raise the level of inter-institutional cooperation by encouraging the establishment of multi-institutional research groups and broadly applicable teaching curricula for outstanding students. We must promote accepted principles for a code of conduct and for institutional commitments to academic faculty members. We must correct the under-representation of entire sectors of the population in our universities, something that might well include a cautious and well-reasoned affirmative action policy for student admission. And, to keep the system honest, we very much need to remove unnecessary obstacles that prevent students from transferring from colleges to universities.

There is also the matter of trust. Ultimately, all public institutions – academic, political or private – depend on the understanding, trust and support of the public. In this regard, the Israeli public's faith in its universities is second only to its faith in the Israel Defense Forces. Heading the list of achievements of which the public is most proud are Israel's accomplishments in science and technology. The public has already expressed its serious opposition to the government's

involvement in university matters, even if this were to help improve their efficiency.

To fruitfully proceed, we responsibly accept the public's faith in research universities and research as crucial to its future, and we must move to restore the equally important faith between Israel's scientific community, higher education system and national leadership. In this direction lies Israel's future.

Challenge for the future

Israel is unique - an advanced modern society based on an ancient tradition with strong cultural and moral values. Higher education and research play a major role in shaping the development of its society, economy, infrastructure, industry and defense. They also help shape contemporary cultural, spiritual and moral values in our old-new nation. However, both will face major new challenges in the years ahead.

The major conceptual and organizational challenges stem from the need to shift from "elite" to "mass" higher education, while maintaining (and extending) the requisite high level of research excellence in Israel's research universities. Both processes are essential for Israel's cultural, scientific and technological future. Arduous under the best of circumstances, both must now be attempted under the onerous constraints of severe budget cuts, academic regression and misguided government attitudes and intervention.

Both conceptual and practical considerations (e.g., the optimal organization of resources), lead me to believe that, to maintain its current high level of quality, Israel's basic research system must remain centered in its research universities. This conceptual differentiation of function inevitably implies and requires operational and budgetary differentiation between Israel's research universities and colleges. By focusing on different goals, educational levels and social contributions, these two complementary facets of Israeli higher education can best reach their full potential.

This insistence on bipartite differentiation does not stem from university-based fear of competition or reduced resources. Rather, it reflects the committee's deep concern that a decade hence, Israel may end up with fifty mediocre, newly renamed "universities," a few teaching-oriented colleges and a greatly reduced, if not nonexistent,

ability to conduct world-class research. This concern reaches beyond the balance between government allocations to different segments of Israel's higher education system – all are inadequate. Rather it is based on the intrinsic nature and quality of the scientific endeavor, which are essential to Israel's future.

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SESSION II

Expanding Access to Tertiary Education as a Modern Imperative: Comparative National Experiences

THE DILEMMAS OF SUPPLY AND DEMAND IN AMERICA

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In the last 20 or 30 years, European governments have contemplated, introduced or experimented with what is commonly called "privatization." Use of the word does not automatically indicate a consistent or clear set of policies, but it is usually taken to mean that some of the decision-making regarding the functioning of universities has been offloaded onto the universities themselves. As governments everywhere remain the principal source of funding for universities, including in the United States where public sector institutions enroll some 80% of the undergraduates, it would be difficult to imagine a privatization policy that granted complete autonomy to universities and colleges.

Governments have retained the right to 'steer" universities, to establish weighted formulas for funding, to intervene in setting enrollment targets, influence the congregation of studies that are offered, set salary levels for teaching staff and decide which kinds of degrees may be awarded by type of institution. They retain the authority to monitor quality and research output and to establish ratings for each. What is possibly different now from a decade or two earlier is that in some European national systems, rigid control over higher education has been relaxed, so that a greater degree of institutional initiative is available, most notably in curriculum, in the internal arrangement of studies, salary schedules and admissions.

A certain element of competition has been encouraged, allowing institutions to raise private money to supplement public support and to establish direct links to industry and local government through contract research, start-ups and spin-offs. This activity has been fully discussed in the literature, and is the subject of Burton Clark's studies on the coming of the entrepreneurial universities, a development which he, on the whole, regards as successful in releasing academic vitality. As Martin Trow notes in his presentation, greater institutional

freedom has allowed for a much higher rate of differentiation, mirroring, as he says, the differentiation of population, specialties and interests that comprise contemporary industrial and post-industrial democratic society.

Privatization is usually considered a step towards American notions of market discipline in which institutions, and academics within them, take account of consumer pressure or solicit private sector contracts. As the preeminent "liberal" society (in the language of the nineteenth century), America retained a commitment to the forces of supply and demand that were abandoned in Britain in the twentieth century or never completely established in other European countries. The pressure of numbers and the importance of research universities in providing the science, the technology and the intellectual capital needed to fight global wars inevitably made government a critical component in the development of the contemporary university. This was as true of the United States as of other countries. So when today we say that market discipline has been particularly crucial for America, we need to discuss just how government intervention and the respect for markets have affected decision-making and governance within universities.

I would not use a word like "balance' to describe the mix because tensions have often existed between markets and government policy. Public-private partnerships have also existed. However, because historians in general have not approached the history of universities from the perspective of market arrangements, we lack solid and detailed studies of how supply and demand have actually affected the decision-making process. Historically, academics themselves have been ambivalent about both markets and governments. In some periods they have preferred the assistance of the latter, especially in matters of research, but at other times they have courted consumers. In his writings on universities, the nineteenth-century philosopher-theologian John Henry Newman denounced market behavior as akin to selling in an oriental bazaar. In general, however, American academics rarely shared European beliefs in the moral authority of the state. They did not regard central government as the embodiment of the highest cultural aspirations of the nation, as in Germany where such theoretical and aesthetic ideas were influential.

Furthermore, the theory and the process of supply and demand involve negotiation, and that allows for considerable institutional scope. Markets, as scholars say, are never single. There are always multiple, and learning how to play one off against the other, or to favor one over the other, or to make concessions here in order to obtain advantages there, is a major component of academic leadership. That is why Martin Trow states that differentiation by mission and the loosening of governmental control inevitably strengthens the role of institutional leaders. American academics normally if not inevitably regard the strong university administrator as an advantage, while Europeans have often deplored the transformation of rectors, *primus inter pares*, into leaders with genuine authority. Yet even those great bastions of donnish dominion (to use the phrase of A.H. Halsey), Oxford and Cambridge, have perceived the advantages of strong leadership in the struggles with central government from the late 1980s onwards. And the University of London gave up the idea of vice-chancellors on a *rota* several decades ago and introduced the "permanent" vice-chancellor.

Doubtless a federal constitution was a factor – hard exactly to assess – in the development of market-centered ideas of institutional initiative in the United States, although probably it was more the large number of private universities and colleges that set the standard for how to respond to market behavior. The constitution gives states the leading role in education at all levels, although, as mentioned, the exigencies of war enhanced the role of the federal government. In the history of state universities, state government has often been intrusive, petty and accusative, retaining the right in some states to determine curriculum and every other arrangement for teaching and research that are regarded as the province of faculty (in the American sense). And in every state the budgetary process involves governors and legislators, who, as the representatives of taxpayers, can hardly refrain from desiring to intervene in the internal life of enormously expensive institutions. Furthermore, elected state officials are *ex officio* members of boards of trustees. So if we discuss American higher education in terms of markets, we have to also understand the vast authority of government at all levels. That is why I use the word "tension."

The objection to market influence is that it can seriously clash with the avowed interests and tastes of academics. More than one critic in the twentieth century denounced the course offerings available even in the most elite universities as shallow appeals to consumers. But academic leaders would prefer to deal with public pressure than with government intervention. The first is never unified, and the second is prone to ideological policy-making.

A final thought. The document celebrated in the United States and amongst knowledgeable Europeans as the "State of California Master Plan for Higher Education" of 1960 was an effort on the part of the representatives of different public systems, a private segment, prominent legislators and civil servants to find a means of allowing both markets and governments to establish reasonably clear areas of responsibility. The result was an extraordinary mix of institutions carefully separated by mission and funded accordingly.

The Plan was an anti-market measure because it denied a defined set of two-year colleges and five-year universities the right to set their own missions (a continual source of complaint by the universities) which was historical practice. It provided a place for markets because encouraging student transfer became an obligation. Student mobility was a salient aspect of the Plan, a bedrock manifestation of American beliefs in opportunity. In agreeing to these arrangements, the University of California acquired the statutory privilege of being an elite research and professional graduate school institution, a privilege denied to the other public segments. But by agreeing to annually accept a large number of transfer students from other institutions (possibly 20% or more) with lower entry requirements than those who came as freshmen, the University accepted the decision that it would not be an elite undergraduate university, at least not one in league with the great private liberal arts colleges and universities of the nation. That was the tradeoff necessary to preserve its legitimacy and survival within a democratic polity.

EXPANDING HIGHER EDUCATION: The British Experience

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Robbins

Any analysis of the expansion of higher education in Britain over the past 40 years must begin with the Robbins Report (Cmnd 2154). The Committee on Higher Education, under the chairmanship of Professor Lord Robbins, was established in 1961, and reported in 1963. When it began its work, around eight per cent of the 18 year old population entered full time higher education. Now the figure is beyond 35 per cent. Taking into account growth in mature students and demographics, there are now more than five times as many full time students as there were 40 years ago, with a similar growth in part time numbers. The biggest long term impact of the report was the principle it established, which has remained largely unchallenged to this day, that 'courses in higher education should be available for all those who are qualified by ability and attainment to pursue them and who wish to do so'.

Remarkably this principle was not one of its 178 recommendations. Rather the Committee referred to it as an 'axiom'. Once this self-evident truth was accepted, the future rate of expansion became a largely technical exercise of forecasting how many people might become qualified for, and might wish to enter higher education.

The Committee justified its adoption of the axiom on two grounds which are worth repeating because they still resonate today, some 40 years on. 'We do not believe that modern societies can achieve their aims of economic growth and higher cultural standards without making the most of the talent of their citizens', and, 'the good society desires equality of opportunity for its citizens to become not merely good producers but also good men and women.' In essence, this bringing together of the needs of individuals, the economy, and wider

society has been the rationale for the expansion of higher education over the past 40 years. The Committee recognised that higher education involved more than just the universities. Indeed the statistics showed that in the early 1960's, the universities accounted for just over half the full time student population. Another quarter were in specialised teacher training colleges and the remaining 20 per cent were in regional and area colleges.

Post Robbins to 1997

While the full time higher education system has expanded fivefold over the 40 years since Robbins, it has not been a steady growth. Periods of fast growth have alternated with much slower and even static periods. In the rest of the 1960's there was a rapid growth beyond that predicted by Robbins. However, as perceptive analysts of the report, such as Trow, had predicted, the focus of government policy was more on the non-university sector, with the establishment of the polytechnics (Trow 1964). The 1970's saw relatively little growth so that by 1980, the actual numbers were quite close to Robbins' 1963 projections. However this was more a matter of luck than the vindication of scientific estimation. Higher education remained in the doldrums during the first half of the 1980's. Universities faced cuts as a result of the reductions in public expenditure of the first Thatcher government. The polytechnics, which now formed a growing non-university sector, were less affected, but the focus of their policy was to maintain the average funding per student. The result was little if any expansion. Between 1980 and 1987, the participation rate rose from 14 to 15 per cent. Britain had not yet entered the era of mass higher education

The major expansion that was to begin this transformation started in 1987. In a White Paper (Cmnd 114) published in April 1987, the government reiterated its commitment to the Robbins principle and its intention to meet the more optimistic of its range of projections. This envisaged a participation rate of around 18 per cent by 1994. The actual outcome was a participation rate close to 33 per cent. How did this major difference between planning and outcome occur? Resources were still constrained in 1987, yet the government supported expansion because it was aware of growing demand. Its approach through the funding councils was to reduce average

funding per student by introducing a process which encouraged institutions to admit additional students at below the average unit of funding. Time does not permit me to explain the methodology in more detail but it is a fascinating case study of how institutional behaviour can be influenced.

Institutional leaders, whatever their rhetorical commitment to maintaining the average funding per student, preferred to take additional students at lower than average funding than cutting numbers and courses, which for most was the only alternative. One effect of this largely unrestrained market approach, in which effectively additional numbers were auctioned off to the lowest price bidders, was to take the system outside the control of the planners. At first they were pleased. More students were enrolling for a given amount of public funding and it was institutions themselves who were driving down the average funding per student.

In the late 1980's the number of new entrants increased each year by more than 10 per cent. In a new white paper published in 1991 (Cm 1541) the government tried to adjust to the new realities. It now projected that the age participation index in 1994 would be around 28 per cent, rather than the 18 per cent figure projected 4 years, that earlier figure already having been exceeded by the time the 1991 paper was published. The expansion continued beyond even these new estimates and by 1994 the participation rate was approaching 33 per cent. A halt was called, partly because of concerns about the impact on quality of this rapid expansion and also because of another crisis in public expenditure. Even expansion at below average funding requires additional resources.

In truth, institutions were also exhausted by managing the rapid expansion and a period of consolidation was welcome. As a result of all this activity the average funding per student fell by around 35 per cent between 1989 and 1995. During this period also the polytechnics were renamed universities with their own degree awarding powers. Britain had stumbled, almost unwittingly, into the beginnings of a mass higher education system.

This focus on the supply of places doesn't explain where the students came from. A latent growth in demand was already evident in the mid 1980's, the main reasons being improved school performance, and also increasing professionalisation closing off non

higher education entry routes to rewarding careers. In addition the demand from women rose significantly, so that by the mid 1990's it was more or less equal to that of men. Mature student participation (21 and over on entry) also grew significantly, Ethnic minority students didn't feature in Robbins. Now the second generation of earlier immigrants are well represented. Finally participation from the poorer sections of the population doubled over this period, although, as we shall see, insufficiently fast for the governments liking.

However, this latent demand didn't manifest itself spontaneously. It needed to be encouraged. The role of institutions here was vital. Given that funding for expansion was only provided if students were actually recruited, institutions promoted their courses strongly. New courses, more flexible delivery arrangements and a range of innovations were introduced to attract the new clientele. In this the newer institutions, particularly the polytechnics led the way, driven partly by their educational philosophy, but also by their greater vulnerability to the hostile winds of competition. They also were more flexible about their entry requirements in order to meet the needs of a more varied student body. Therefore while the adoption of the Robbins principle implied a demand led policy, in reality it increased the power of the supplier, the universities, rather than that of the students. For it is the university which judges whether a candidate has the 'ability and attainment' for higher education. And in the period 1987 to 1994 that judgement was interpreted more flexibly than previously. The gatekeepers were willing to open the gate just a little wider.

1997 and Beyond

The Labour Government elected in 1997 changed the financial context within which expansion took place, and sought to tackle, in more direct fashion than its predecessors, the issues preventing wider access. It introduced tuition fees paid by the student, and from 2006, will be allowing institutions to charge higher fees than the minimum set by the government, It has also expanded the loan scheme for student living costs instead of providing an award. While there are safeguards for poorer students, there is no doubt that the financial burden on students has increased, and will continue to increase. It is too early to assess the impact of some of these provisions on student

demand because they will not be introduced until 2006. However the tuition fees and extra financial burdens introduced in 1998 have not significantly affected overall demand, although mature students seem to be switching from full to part time courses.

An early assessment would indicate the possibility that a cultural shift has occurred in the U.K. in which, given that higher education is now the only route to most rewarding careers, the accompanying financial burden is seen at best as an investment in the future, and at worst as a necessary evil. A much higher proportion of students now work their way through college, blurring the distinction between full and part time attendance. However there are some social groups who are particularly adversely affected and student poverty is becoming an increasing problem.

The government some years ago set a target for 50 per cent of the 18 to 30 age group to have had some experience of higher education by 2010. However it is difficult to compare this with the 18 to 21 participation target mentioned earlier. It applies to a wider age group, and includes attendance on part time and/or shorter courses. In fact the 18 to 21 participation rate has only crept up by a few percentage points over the past decade. Moreover the demographics indicate that even without any growth in the participation rate, there will be a significant increase in student numbers of the order of 15 per cent by 2010. It is not surprising that more recently the language of government statements has changed to say that it is committed to expanding 'towards' the 50 per cent figure.

Within the overall increase, the Government wishes to see significant increases in the numbers coming from poorer backgrounds. To this end it has provided funds and developed programmes to encourage aspirations, applications and admissions from this group. And within this particular policy it is especially concerned that the most high demand and prestigious universities do not currently admit sufficient high ability students from poorer backgrounds. Hence the establishment of the Office for Fair Access (OFFA) to approve each university's strategy for widening access. Time does not permit me to explore the rationale for this policy in this paper.

Over the last 15 years, expansion has been accompanied by greater diversity in what is offered. Most recently, 2-year employability

focussed foundation degrees have been introduced to provide a route either directly into employment or onto the 3rd year of a relevant honours degree. Increased attention is also being given to the learning and teaching challenges of a more diverse student population. To this end The Higher Education Academy has been established, largely funded by institutions and government, as a development agency to support staff in enhancing the student experience.

Conclusions

Britain is moving to a mass system of higher education. While Robbins provided the rationale, the main expansion did not begin until 1987, and there is a good case for arguing that its scale was unplanned. Since then there have been changes not just in numbers but in structures and characteristics to meet a growingly diverse student body.

The lessons of the British experience of the transition to mass higher education can be summarised as follows:-

i) Objectives- The purposes of expansion have remained virtually unchanged since Robbins although the language has changed. Essentially, they are to support economic development, foster social cohesion, and promote equality of opportunity.

ii) Demand- The demand for higher education has been stimulated by improved school performance, the reduction of previous inequalities based on gender, ethnicity, age, and social class, and the increased professionalisation of the occupational base which has largely removed non higher education routes to rewarding careers, and which has also promoted continuing professional development.

iii) Finance- In the immediate post Robbins period, expansion was financed by increased public expenditure. The major expansion of 1987 to 1994 was financed largely through reductions in unit cost. The most recent expansion is being financed by an increased private contribution from students and their families. So far there has not been a negative impact on overall demand, but the effect of the major changes to be introduced in 2006 remains to be seen.

iv) Characteristics- To meet the needs of the larger student population and attract them to higher education there is now a much greater variety of subjects (with a greater emphasis on vocationally relevant

courses) responsiveness in delivery arrangements, innovation in length of courses (e.g. 2-year foundation degrees), and flexibility in entry requirements. Expansion has not been delivered by offering more of the same. Institutionally, it has been the newer institutions which have led the changes.

Whether there are any lessons for Israel from the British experience is a subject for further discussion.

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ON (NOT) COPING WITH MASS HIGHER EDUCATION: THE ITALIAN EXPERIENCE

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The Italian transition to mass higher education offers a good example of two generalizations well known to students of university systems. The first is that differentiation, commonly considered the solution to problems posed by mass or generalized university access, does not come about spontaneously or effortlessly. In contrast to biological systems, where it is the predetermined outcome of nature at a given level of growth, in social systems differentiation is always problematic: to be successful, it needs "bearers", powerful supporters who can overcome the resistance of those who are in favour of the *status quo* and against diversification. Second, the Italian experience is a good example of how, once established, higher education systems develop systematic resistance to change: beliefs and interests predominant in the university become deeply institutionalized and often preclude the very perception of possible alternative structural arrangements. As, among others, Margaret Archer (1979) and Burton Clark (1983) have pointed out, the original structure of higher education systems may severely limit their adaptive capacities and largely determine their future.

It is therefore fitting to start this presentation with a brief sketch of the origins of the Italian academic system and its basic structural features.

1. The basic structural features of the Italian university system

In 1861, at the time of national unification, the Italian political elite was faced with the problem of reorganizing the universities located in the various Italian regions. It consciously opted for the centralized French model over the decentralized German one, despite the fact that many intellectuals and politicians considered the latter the best in

Europe[1]. In part, this choice was due to the precarious condition of most existing universities: some were very small and had serious economic problems; others, like the university of Naples, were large, but poorly organized; everywhere, except in a few universities situated in Northern Italy, there was a climate of intellectual stagnation. The Italian government felt that, if these weak institutions were left to themselves, their situation would grow even worse. The government's plan was to reduce the number of universities (there were twenty, more than in any other European country) to six or seven, to place them under the control of the state and to endow them with sufficient intellectual and financial resources to make them able to compete with the best European research centres.

A further argument favouring centralization was of an ideological nature. The Italian political elite wanted to break the long-standing link between knowledge and the Catholic church and promote secularized rationalism in science and scholarship, free of church influence and loyal to the new state. The nationalization of the universities was conceived as part of the state effort to modernize Italian society (Porciani 2001).

Thus universities were transformed into state institutions, directly financed and managed by the state, rectors were nominated by the government, and curricula were established at the national level. Together with centralization went uniformity. All the universities had the same status, and the only degree they conferred, the *laurea*, had equal value all over the country, because it was considered issued by the national system rather than by the individual universities – after all, in order to get their certificate students had to follow the same curriculum everywhere.

To be sure centralization characterized several other European university systems, in particular the French, on which the Italian was patterned. However, the peculiarity of Italian centralization was that it was not backed by determined political leadership, capable of

[1] Between 1860 and the beginning of the 20th century there was a long and lively intellectual debate over the Italian university system, pitting academics, intellectuals and politicians in favour of individual universities' autonomy against those who wanted a centralized and state-controlled university system (for good accounts of this debate see Caracciolo 1958 and 1960 and Porciani 1994 and 2001).

planning and implementing a coherent university policy. Despite the statements of Italian politicians in favour of a state controlled university system, higher education was never an important priority for them. The universities were controlled by the Ministry of Public Education, which also managed elementary and high school education, and it is the latter two which mainly held the Minister's attention – in the 19th and early 20th centuries because of the salient importance for nation-building of elementary education in a country which had recently reached political unification and was plagued by a high illiteracy rate, and in the second part of the 20th century, because of the sheer number of elementary and high school teachers – they were, at times, almost one million – which made them a formidable pressure group and an important voter pool.

As a result of this lack of interest on the part of politicians, higher education policy was in the hands of bureaucrats running the University Department of the Ministry of Public Education. But central bureaucracy was equally unsuited for the task of effectively governing the national university system. The ministerial staff was composed mainly of legal experts, who were trained to privilege formal aspects of laws and regulations over substantive issues. Moreover, the chain of command between the Ministry in Rome and the peripheral structures and actors in the system, i.e. the *facoltà*, the institutes and individual academics, was too long and, in the absence of intermediate structures, too thin. As a consequence, central bureaucracy was to a large extent powerless, a paper tiger producing a plethora of directives regulating university life in the minutest detail, but commanding a questionable level of compliance. In this power vacuum the academic oligarchy flourished.

In opposition to central authority based on bureaucratic rules, academic authority was based on personal control. As in many other European continental systems (Neave and Rhoades 1987), the elementary unit of academic organization was the chair system, centred on a master-apprentice relationship between the full professor, who often headed a mono-chair institute, and the assistants who worked under his supervision. The academic boss recruited disciples with an eye not only to their intellectual qualifications, but also to their personal traits, attitudes and, in some disciplines, ideological orientations. Rather than a mere scientific mentor, he was

for them a master in the broad sense of the word; in turn, followers owed him the respect and deference due to a *pater familias*[2]. More than filial reverence, however, the crucial mechanism which kept together the chair system was the control of the full professor over the academic careers of his disciples, who, without his support, would have had little chance of climbing the academic ladder.

In turn, individual chairholders were integrated into larger networks, often of national size, generally called "schools", held together by scientific orientations and interests, but also by ideological and political loyalties, and, especially in some professional schools, by material interests.

This traditional model of academic organization had mixed consequences. On the positive side, the highly integrated and "light" structure of the chair system permitted the professor to dispense with the rigidities of large and formally organized research settings: for instance, the use of informal recruitment channels and the preference given to in-house training over acquisition of formal degrees in other scientific institutions allowed an academic boss rapidly to bring together the intellectual and human resources needed for carrying out his scientific work (Giglioli 1979, 47-48)[3]. On the negative side, however, the chair system favoured horizontal fragmentation (as opposed to the vertical integration in "schools") of the academic community. Local faculties were only loose federations of academic "barons" (as chairholders were sometimes called in Italy) whose control over their disciplinary field and their assistants was considered absolute and could not be intruded upon by colleagues. Like a medieval lord, a chair holder was a *roi dans son domaine*. Of course, all this was bound to generate particularism and scientific isolation.

To summarize: from its beginning, the Italian academic system was governed by two different, indeed opposite, authority systems. The central bureaucracy of the Ministry of Public Education tried to run

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[2] Indeed, as has been pointed out (Martinotti 1972), the *ethos* of the chair system bore a striking resemblance to amoral familism (Banfield 1958), i.e. to the principle "maximize the advantages of the family and assume that all the other families are doing the same".

[3] According to Holton (1974), this is an important factor in explaining the swift and extraordinary scientific success of Enrico Fermi's group in the '30s.

the universities on the basis of formal rules and regulations, while professorial power relied on personal control. But, as several observers of the Italian university system have remarked (e.g., Clark 1977, Giglioli 1979, Capano 1998), these two authority structures were complementary and actually depended on each other. The power of academic oligarchy could only thrive in a system where all the crucial resources – funds, academic posts, the approval of even the smallest curricular innovation – were placed in Rome, because in such a situation prominent chair-holders and, especially, the schools became indispensable mechanisms of resource allocation from the centre to the peripheries (the isolated academic not protected by a powerful patron and with no links to a school was fatally marginalized). At the same time, despite their universalistic orientation, central bureaucrats depended on the informal networks of the academic estate, because the latter provided some cohesion and coordination to an organization which, had it been governed by bureaucratic rules alone, would have run the risk of disorder and disintegration.

Extreme bureaucratic formalism and tight personal rule were thus the two faces of the same organizational arrangement. The only way to break this unholy alliance would have been to decentralize the system by conferring a large amount of autonomy to the individual universities and to favour differentiation by promoting competition among the several institutions. But the resistance to change of the vested interests - the academic oligarchy and the central bureaucracy - and the general conservatism of the professoriat prevented any move in this direction. Thus, despite some minor changes and adjustments[4],

[4] The structural continuity of the Italian university system from 1860 to the last decade of the 20th century was not significantly altered by the so called "Gentile reform". Giovanni Gentile - an idealist philosopher and a friend of Benedetto Croce, who later turned to Fascism and became Minister of Education - in 1923 was the author of a university reform which tried to introduce some differentiation in the university system by separating the university proper – which, according to Gentile, should be devoted to the advancement of the sciences and the humanities and to the preparation for the two traditional professional fields, Law and Medicine - from the training in the "lower" professions such as agriculture, architecture, engineering and pharmacy which should been located in vocational schools; the reform also conferred some curricular autonomy to individual universities. But these provisions lasted a very short time: during the '30s, the vocational schools

the two characteristic features of the Italian university system – centralization and lack of differentiation – have remained basically unaltered for more than a century. Only in the last fifteen years have some steps toward decentralization been taken, but the results, as we shall see, are ambiguous.

2. The impact of mass higher education

As in other European countries, university expansion began in Italy in the '60s: student numbers grew swiftly from 1965 to 1975, continued at a slower pace during the next ten years and then again increased very rapidly from 1985 to 2003 (fig. 1). Overall, despite a remarkable demographic contraction – about 30% - of the relevant age cohort in the last 15 years, the total number of students increased from 268,000 in 1960 to 1,800,000 in 2003 and the percentage of 19-year olds entering the university grew more than six times, from 9% in 1960 to 60% in 2003. This robust growth had many consequences.

The demographics of the student body.

First, expansion affected the composition of the student body. The most significant change concerned gender. Female students, who in 1960 were only 25% of all the students, at the beginning of the '90s reached 50% and today (2003) they are the majority, 56%. In addition they are much better students than their male counterparts: they have more regular academic careers, better grades and graduate earlier than males.

The social origin of students changed as well, though less than one might expect. Although the data reported in table 1 are not homogeneous (some refer to the whole student body, some to freshmen, some to graduates), the general trend is clear enough. Students with a working class background, who accounted for only 7% of the student body in 1964, increased remarkably in the first few years of expansion (23% of freshmen in 1973), while the children of the upper middle class decreased from 22% to 17%. This, however, does not mean that mass university produced a wide democratization of access to higher education. In fact, after 1973 the percentage of working class students remained stable, while that of upper middle

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were brought back within the university system and the Fascist government stripped universities of any autonomy in curricular matters.

class students grew again (table 1). In the last decade, despite the much wider access to higher education, the probability of going to university remains much higher for children of the upper middle and middle classes than for the children of lower class and less educated families[5] (Istat 2003 a and 2003 b, Cobalti and Schizzerotto 1994; Pisati 2002). Moreover, the rate of attrition is much stronger for students of lower socioeconomic and educational background: table 1 shows that, while the percentage of working class students among first-year students in 1998 is 23%[6], it falls among those graduating in 2002 to 15%, whereas the corresponding figures are 21 and 37% for upper middle class students.

The transition to a mass university did not affect the various disciplinary fields in the same way (tab. 2). In percentage terms, the hard sciences and engineering experienced a slow but steady decline from 1970 to 2000, medicine, after introducing *numerus clausus* in the '80s, had a rapid contraction and today comprises only about 3% of the student body[7], and law shrank considerably in the past five years; on the contrary, economics and the social sciences experienced spectacular growth between the '70s and the '90s and today account for over ¼ of freshmen, and the humanities have been constantly expanding since the '80s.

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[5] For instance, in 1998 two thirds of high school graduates from upper middle class and middle class families enrolled at the university as against 47% from the petty bourgeoisie and 37% from the working class; and just one fifth of high school graduates whose father had only an elementary school degree went to the university, as against 48% of those whose father had a high school degree and 75% of those whose father had a university degree. A confirmation of these data comes from a recent study of Italian families by the Bank of Italy, according to which 24% of university students come from the families of the highest income quintile, while only 8% come from the families of the lowest income quintile (the figures for Southern Italy are respectively 28% vs. 4%) (Perotti 2004). Of course, in this respect Italy is not an exception. Despite the constant growth of education levels, in all advanced societies access to education is still dependent, although to a variable extent, on ascribed characteristics (Shavit and Blossfeld 1993).

[6] According to the 1991 census, the working class represents 46,6% of the working population.

[7] The 2000 figure of 7.1 in table 2 is deceptive because it includes paramedical students – nurses, biomedical technicians, etc. – who previously were trained not in the university, but in vocational schools.

Even from the point of view of the social characteristics of the students, disciplinary fields were affected in different ways. Table 3, which refers to the graduates of 2002, shows that in the traditional professional schools – law, medicine, and engineering – there is a significant percentage of students with *liceo* high school education[8], who come from upper middle class highly educated families. At the opposite end, students of education and foreign languages are predominantly females from petty bourgeois or working class families with low cultural capital who went to vocational schools rather than to *licei*. Those who graduated in the sciences and in letters and philosophy fall between these two extremes. In general, then, even under the impact of mass university professional schools were able to a considerable extent to control their intake, which continued to be characterized by high social and cultural capital, while "new" students brought in by the expansion – women and lower class youth – tended disproportionately to study the least prestigious disciplines of the social sciences and the humanities[9].

Thus the impact of mass education was relatively uneven and meant different things to different fields and, it should be added (even if there is no space to discuss this matter here), to different universities: students in education in some overcrowded institutions such as, say, the universities of Rome or Naples had a very different university experience from that of students enrolled in a sheltered medical school or classics department of a middle-sized university.

The performance of the system.

Structurally, the Italian higher education system was particularly ill-equipped to deal with expansion because of its lack of differentiation. As we have seen, it was a single public system[10] with only one institutional form, the university, which included both professional schools and liberal arts and sciences; the system had only one tier and

[8] In Italian secondary education there are two basic tracks, the classic or scientific *licei*, which are the elite schools, and the vocational institutes (*istituti tecnici* and *scuole professionali*). Until the late '60s, graduates of the vocational institutes could not enrol in the university.

[9] For a more detailed analysis of these trends in the first decade of expansion, the '70s, see Giglioli (1979: 188-194).

[10] Formally there were (and still are) a few private universities, but they are too few, too small and rely too much on state funding to make any difference.

conferred a single degree; and there was no formal distinction between teaching and advanced research. When student numbers were small enough – in 1960 there were less than 250,000 students – it could cope reasonably well with its traditional function, the training of an elite for the professions, the civil service, teaching and advanced research. But it was completely inadequate to deal with a hugely increased and, to a certain extent, demographically and socially heterogeneous set of "customers", a significant part of whom did not have the *habitus* once traditionally required of university students.

Moreover, political authority and central bureaucracy were unable to react quickly to the new circumstances. There was no attempt to channel the student flow: on the contrary, in the political climate of the '60s university access was considered a social right of citizenship and, at the end of the decade, admission to higher education was granted in every academic institution to anyone possessing any sort of high school degree. There was no rational plan to create new establishments in order to redress the uneven territorial distribution of the existing ones and to avoid their overcrowding[11]: the universities founded in the last forty years of the 20th century were created in response to local pressures more than to satisfy national needs. Finally, despite the fact that for a large part of the "new" students it proved very difficult to satisfy the traditional academic requirements, there was no move to reform or differentiate curricula, which therefore remained those of an elite university. To all this must be added that student growth was severely underfinanced - since 1970 the Italian expenditure for higher education as a percentage of GNP has been among the lowest in Europe (Capano 1998: 133-136, Associazione Treellle 2003: 81-84).

The only way in which the Italian university system reacted to the transition to mass higher education was the recruitment, in the early '70s, of a considerable number of junior faculty, most of whom were offered yearly contracts and faced precarious career perspectives, a

[11] For instance in 2003, the university of Rome had 137,000 students, the university of Bologna 97,000 and the university of Naples 91,000. Today, among the OECD countries, Italy has the lowest number of higher education institutions, 1.3 per million inhabitants as against 1.4 in France, 1.8 in Spain, 3.1 in Germany, 3.7 in UK and 4.7 in Sweden (Associazione Treellle 2003, p. 50).

fact which would become the cause of much resentment and alienation among the lower ranks of the professoriat a few years later.

As a result of this inadequate response, the impact of expansion on the Italian university system was devastating. To cite just a few data: at the end of the '90s the percentage of *fuori corso*, that is, students who continue to be enrolled after failing to complete their course within the prescribed time, was 36%; the drop out rate between the first and the second year was 22%, and between the second and the third 10%; the students who abandoned the university without getting a degree, which had reached the appalling figure of 70% in the mid-'80s, was about 60%; two thirds of the remaining students who did graduate took at least three years longer than the statutory duration of the degree programme, and the average age at graduation was 27; finally, the percentage of university graduates in the population between 25 and 34 years of age was just 12% versus an average of 29% in the EU[12].

The academic staff.

Students' growth was particularly rapid in the first period of expansion, between 1960 and 1972, when the percentage of the age class going to the university increased from 7% to 28%. As noted before, in order to face this enlargement, during the same period there was a corresponding robust enlargement of the teaching body, which took place both at the level of full professors (who more than doubled, passing from 2,000 to 4,400), and, especially, at the level of junior teachers, who passed from 3,000 to 21,000, more than a fourth of whom hired with year-to-year contracts (Giglioli 1979: 34)[13]. This measure, which was common throughout continental Europe, allowed the university system to maintain a relatively acceptable student/teacher ratio; even later, on average the numbers of teachers remained adequate, especially if we take into account the fact that more than a third of Italian students, the *fuori corso*, are nominal students, because they do not attend courses (table 4). And if, among

[12] For a useful summary of data on the performance of the Italian higher education system within the comparative framework of EU and OECD countries see Associazione Treellle 2003: 55-84.

[13] Also some 10,000 young university graduates were hired in the early '70s with 2- or 4-year contracts, in theory to be trained for research, but who actually engaged in a lot of teaching.

the students who take courses, we consider only full time equivalent (FTE) students, the Italian student/teacher ratio becomes rather good for European standards: for instance in 2001 it was 11:1[14].

Although this rapid growth of the junior teaching staff in the late '60s and early '70s provided some kind of response to student expansion, it created problems of its own, particularly for the traditional model of academic organization. The chair system was based on a rather low junior/senior faculty ratio. Under these conditions, an academic boss could safely secure a chair for his disciples and thus legitimize their long period of dependence on him; in turn, they internalized the time cycles of academic life and their expectations were adapted to the opportunities provided by the academic system. But when the number of junior teachers became five or six times larger than that of the senior staff, the situation changed radically: it became very difficult for a *barone* to take care of his assistants' careers. Thus, while their entry into the academic profession, because of the strong demand for junior teachers, became easier, at least on the basis of traditional standards[15], their upward mobility was blocked. For many of them, the junior positions, which until a few years before had been considered temporary steps in the career, risked becoming permanent; others, who were hired with temporary contracts, were even less fortunate and had to struggle every year to have their contracts renewed for poorly paid jobs with heavy teaching loads.

This situation generated much discontent and resentment among the lower academic strata. My study of Italian academics in the mid-'70s (Giglioli 1979) found that the feelings of respect and deference of the young teachers toward their academic bosses, which had

[14] Of course, these average figures conceal the large variation of the student/teacher ratio across disciplines, which, in 2001, for FTE students, went from 5 in medicine and 6 in the hard sciences to 36 in education (Associazione Treellle 2003: 69).

[15] For instance, while during the '50s it was virtually impossible to get a teaching job without having the *libera docenza*, a title patterned on the German *habilitation*, such a requisite became less important in the late '60s and the '70s, especially in those "new" disciplines, such as some branches of the social sciences, which experienced a strong expansion, but did not have an adequate "reserve army" of people who aspired to an academic career and possessed the traditional requirements for it.

characterized the chair system, had turned into hostility and resentment. The great majority of the junior staff considered the domination of an oligarchy of full professors, especially their control of financial resources and promotions, as one of the major difficulties of the Italian university system, which stifled the intellectual creativity and research autonomy of the the academic community's younger members. Interestingly enough, these views were shared by almost half of the full professors, which meant that the legitimacy of the chair system had largely eroded even among chair holders. In this situation, teacher unions, which, up to then, had never played a significant role in Italian universities, flourished and, in the '70s and early '80s, the issue of the economic and legal status of the junior teaching staff was perceived to be the chief university problem. In the end, with a series of laws and ministry decrees, almost all temporary teachers were permanently hired by the mid-'80s. As could have easily been predicted, such a massive collective recruitment had perverse effects on the age structure of academic staff. Fig. 2 shows that, in 16 years, from 1985 to 2001, the cohort structure of academics remained substantially unchanged, simply moving toward older ages - the modal age increases from 38 years to 54 years, and the average age increases by 7 years. Today, the Italian academic body is among the oldest in Europe, remarkably older than in Germany, the UK and, although to a lesser extent, France (table 5).

I concluded my 1979 study saying that the impact of mass higher education favoured "exit" rather than "voice" behavior among academics. Exit did not mean that they resigned and looked for other jobs, but simply that, although remaining at the university and enjoying tenure, stipend, prestige and power, they tended to reduce their commitment toward the institution. Many, especially in the professional fields, increasingly dedicated themselves to professional and consulting activities. Others, including some of the most prestigious researchers, tried to find some research niche - sometimes abroad - isolated from the turmoil of mass university, and to eschew teaching, which they delegated to junior staff. Others still, especially in the social sciences and in public law, oriented their activities towards politics, becoming advisors to politicians and labour leaders. The availability of these exit options deprived "voice" of the support of some of the more prominent and quality-conscious members of the

academic community and mainly left it to the lower strata of the profession who, as we have seen, were more interested in obtaining job stability than in increasing the overall capacity of the institution to cope with the challenge of mass higher education.

Underfinanced, undifferentiated, with some of its largest universities congested by excessive student numbers, with a rather low productivity rate, with a sizeable part of its teaching staff either demoralized or increasingly less committed to intramural matters, the Italian university reached its lowest point in the mid-'80s. However, towards the end of that decade there was an important turning point.

3. The reforms of the '90s and their implementation

Between 1989 and 1999, a series of government measures changed the Italian higher education system in depth. Just to mention the most relevant of them, in 1989 universities were granted autonomy in financial, personnel and curricular matters. From 1993, state funds, which accounted for about 80% of university budgets, were given to the universities in a lump sum instead of being allocated in pre-determined rigid categories, as was done before. In 1998, the recruitment and promotion system was changed in order to be more responsive to the autonomy of the universities. Finally, in December 1999, in part as a consequence of the Sorbonne and Bologna declarations[16], curricula were differentiated into a 3-year undergraduate course leading to the *laurea* (Bachelor) and a graduate one leading, after 2 years, to a *laurea specialistica* (Master) and, after 3 additional years, to a doctorate; universities were asked to formulate the new curricula within the bounds of broad government guidelines.

Doubtlessly, these were important innovations which injected a robust dose of decentralization and autonomy into a hitherto tightly centralized university system. Their aim was twofold. On the one hand they introduced a vertical differentiation by tier, distinguishing between graduate and undergraduate curricula and degrees; on the other, by conferring to universities financial, personnel and curricular

[16] The aim of the two declarations (the former signed in 1998 by the Ministers of Education of France, Italy, Germany and the United Kingdom, the latter a joint statement of 31 European Ministers of Education signed in 1999) was to promote the creation of a European higher education area through the harmonization of the different European educational systems.

autonomy, reformers hoped to create the conditions for a situation of quasi-competition among institutions, which would eventually lead to differentiation. In some respects, these innovations were successful. In particular, early data (CNVSU 2004) indicate that curricular reform seems to have reduced considerably drop-out and late-completion rates. However, the transition from a centralized national system to one based on the autonomy of the individual universities has been inevitably difficult because of the resistance based on beliefs, behaviours and interests deeply institutionalized within the university system and, in particular, within the academic body. Two examples will suffice.

The first concerns the new recruitment system established in 1999 for associate and full professors. This system replaced a previous one according to which professors were appointed on the basis of a national public competition, a *concorso*, called every 5 or 6 years, that evaluated all candidates in a given field and selected a number of them equal to the total vacancies existing in that field in the whole university system. The main inconvenience of that system was that the election of the evaluating committee members was a major "political" affair which mobilized both the universities which posted the vacancies and the various national "schools" of a given disciplinary area, which wanted to be represented in the committee. The universities which were not strong enough to be on the selection committee did not have any control over the outcome and ran the risk of being obliged to hire an unwanted candidate.

In the late '90s some proposals were made to abolish *concorsi* entirely and to let the universities make the appointments they wished. But, of course, this would have threatened one of the major power sources of the academic oligarchy at the national level, i.e., its control over recruitment. Thus the academic establishment strongly objected to the abolition of *concorsi*, arguing that without the control of the relevant national academic communities, individual universities would be exposed to the danger of localism and made parochial appointments. Finally, a compromise was found. The new law states that a university which has a vacancy calls a local *concorso*, whose evaluating committee is composed of five members, one appointed by the university and the other four elected by all the professors belonging to the relevant discipline across the country.

After more than three years, the results of the new procedure appear disappointing[17]: 89.3% of the 6,681 academics appointed to full professors vacancies from 1999 to July 2003 belonged to the same universities where they were already teaching. The percentage of in-breeding was a little lower, but still rather shocking, among associate professors, where it reached 74.8% (CNVSU 2003). Thus the reformed *concorsi* proved to be an instrument not for selecting and hiring new scholars, but rather for promoting insiders: the presence of external members on the committees did not prevent inbreeding in any way, but simply gave powerful academic "schools" the possibility to negotiate and exchange favours.

The second example concerns the recent curricular reform, i.e. the creation of a 3-year undergraduate and 2-year graduate curriculum, linked to a credit system which should make students' qualifications more transparent to prospective employers and therefore more "portable" within the EU[18]. Despite the vehement protests of a sizeable minority of academics, who considered the reform a degradation of higher education ideals and a fraud for the students, in principle the innovation was relatively well accepted. By 1999, many professors had understood that the elite curricula of the Italian university (many exams, long and difficult courses, the obligation to write a final thesis in all discipline) were too demanding for mass university students and should be reformed. But the implementation of the reform was far from satisfactory. Although there has not yet been a comprehensive analysis of the new curricula, it is well known to insiders that they reflect more the interests of the academic estate (especially their quest of new posts) than a genuine reconsideration of the structure and content of university teaching in the context of mass higher education. In general, the curricular reform appears to have been accepted by academic staff *obtorto collo*, respecting its letter, but often betraying its spirit.

These two examples (and it would be easy to cite others) seem to

[17] For a vitriolic assessment of the current method of academic recruitment in the field of economics, which, however, applies to many other fields as wess, see Perotti 2002.

[18] The credit system was patterned on that of the European Erasmus student exchange program, which, according to the Bologna declaration, should be adopted throughout Europe.

show that, although in the last fifteen years the formal structure of the Italian university system has significantly changed - centralization has been largely dismantled and universities manage their own budgets, personnel and curricula – to a considerable extent universities continue to behave following patterns inherited from the past. Decentralization, far from producing competition and differentiation among institutions, seems to have favoured the particularistic and collusive interests of the academic estate.

The solution to this problem, however, is not to go back to centralized management of higher education, as some observers have suggested. Autonomy is indispensable, but, to be effective, it must be backed by accountability. If academics were to bear the consequences of bad appointments, they would resist the temptations of familism and cronyism more easily; and if institutions were rewarded for their excellence, they would be motivated to act "virtuously" and to specialize in the areas in which they perform better. In a university system driven by public funds, the best way to provide incentives for responsibility is to make sure that "money follows quality", that is, that good research and teaching within and across institutions are rewarded, while unsatisfactory performances are negatively sanctioned[19]. In order to do this, an accurate system of evaluation is required. Unfortunately, at present, the Italian university system is wanting on both counts, the allocation of state funds and the evaluation of performance.

First, university funding is hardly linked to performance in research or teaching. According to the last available budget, 70% of the total revenues of all state universities (€10,500 million in 2002) comes from the Ministry of Education, 11% from student fees and the rest from other sources (CNVSU 2004). Most of the financing from the Ministry – around 70% – is channeled through the *Fondo di Finanziamento Ordinario* (FFO), the largest part of which (92%) is allocated on a historical basis, while the rest is distributed to the universities via an "equalization component" aimed at reducing cost imbalances across institutions and disciplinary areas[20]. Although the

[19] Of course, that is not to say that rewards are exclusively economic: within the academic world recognition by peers and by civil society may count as much as, if not more than, money.

[20] For an analysis and criticism of the allocation of state funds to the

formula on which the "equalization component" is calculated refers to the teacher/student ratio, its connection to teaching quality is rather vague, and research quality does not influence FFO allocation in any way. The only type of state financing where research quality is taken into consideration directly concerns funding for individual research projects of national interest (Prin), which are peer-reviewed by three experts per project, one of them usually foreign. These, however, account for no more than 2% of total state funding for higher education.

Second, evaluation remains problematic. Certainly, in recent years some attention has been paid to the question: two national committees were created in 1999 (the National Council for the Evaluation of the University System and the Committee for the Evaluation of Research, the first mainly concerned with evaluating teaching, the second research) and, more recently, the Conference of the Rectors and the National University Council established their own evaluation bodies. Nonetheless, the elaboration of criteria for research and teaching assessment has not gone beyond a tentative preliminary and exploratory stage[21].

4. Conclusions

It is uncertain whether the current situation of autonomy with little accountability is going to be a permanent condition of Italian universities or just a momentary stage in the transition to mass higher education. If the first outcome prevailed, the consequences would clearly be disastrous. For one, any attempt at institutional differentiation would be blocked. Universities would differ in size, but would be the same in any other respect. This is what is occurring now. In Italy there currently are 74 universities. The 10 largest ones[22] have an average student population of 76,000 and comprise 40% of all university students; the 10 smallest have an average of 1,100 students

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universities see Perotti 2002: 220-237.

[21] Perotti's judgment is more drastic: "Despite a remarkable production of symposia, declarations, committees, subcommittees, surveys, and decrees, there is a persistent reluctance to accept the notion of competition in research, and the idea that good quality research is what is consistently judged as such by the international collectivity of peers" (Perotti 2002: 237).

[22] Rome, Bologna, Naples, Palermo, Milan, Padua, Turin, Florence, Catania, Bari.

and represent 0.6% of the national student body; the remaining 54 have 20,000 students each on average. In the academic year 2002-03, the largest university, Rome, had 137,008 students, the smallest, Aosta, just 341. These few numbers suffice to show how different Italian academic institutions are: some are enormous and overcrowded, some minuscule; some are full-fledged universities, others are simply small or middle-sized teaching colleges. Formally, though, they are all the same: they confer degrees which have the same legal value all over the country, and all but three – even the smallest and most peripheral – have their own doctoral programmes and their own doctoral students. To use Durkheim's terms, the organization of academic labour is based not on differentiation and organic solidarity, but on likeness and mechanical solidarity. Academic institutions do not stress their specificity and their particular mission, but their similarity. Clearly, this produces an enormous waste: it is absolutely meaningless to invest in research at institutions not dissimilar from a California community college[23]. Italy does not need 74 "generalist" universities, all built on the same pattern: rather, it needs different classes of institutions with specific vocations.

If, on the contrary, the allocation of state financing were based on performance and universities were competing for funds on the basis of their teaching and research quality, differentiation would ensue. Some institutions would concentrate on research, some on teaching, some would focus on specific fields or projects rather than on the entire gamut of academic knowledge. Only such a diversification of the university system could accommodate the different and, to some degree, contradictory goals and values of mass higher education – undergraduate teaching and advanced research, access for all and selection of the most gifted, equality and competence. But on what resources can a move toward institutional differentiation count in Italy?

Of course, within the professoriat, research-minded academics are strongly in favour of concentrating financial and human resources in a few institutions. For instance, just a few months ago, *Gruppo 2003*, which includes the 30 Italian academics who appear in the ISI lists of

[23] Of course, no disparaging of the essential contribution of teaching colleges to mass higher education is implied.

top-cited scientists, issued a manifesto, which in addition to stigmatizing several bad practices of the academic world, stated that modern scientific research thrives only if it reaches a "critical mass" – i.e., if it is carried out in large structures that on the one hand share basic services, sophisticated and costly labs, and efficient data banks and information systems, and, on the other, facilitate face-to-face interaction among scientists. The era in which research was conducted in small institutes in peripheral universities, they added, has passed forever. These views are shared by many academics – the youngest, the more scientifically active, the more oriented toward the international scientific and scholarly community. But they are resisted by as large, if not larger, a portion of the professoriat, which either continues to cling to the elite university model, or thinks that institutional differentiation will breed inequality and discriminate among students.

Support for quality university research and institutional differentiation also comes from the economic world. In recent years, Confindustria, the association of industrialists, has repeatedly organized symposia and issued proposals asking the government to invest more in R&D and to promote more basic and applied research in the university. These demands, however, often appear more formal than substantial. The recent decline of large manufacturing firms, especially in the automobile industry, and the fragility of the Italian high-tech sector have strengthened the role of small- and medium-sized business, which do not need significant investment in advanced research, as the backbone of the Italian economy. In brief, the relative backwardness of the country's productive structure entails low demand for a highly-educated workforce and leaves large parts of the economy unaffected by the performance of higher education institutions. For instance, a recent survey of 100,000 firms operating in the industrial, service and professional sectors (but excluding the public bureaucracy) found that only 8% of the work force firms planned to hire in 2004 required a university degree. These data also showed a large imbalance between supply and demand for university graduates: many graduates, especially in the humanities and law, face a long period of unemployment before finding a job, and often get an occupation for which a university degree is not necessary (Checchi and Jappelli 2004, Excelsior 2004, Istat 2001).

The situation of the labour market helps to explain student attitudes toward institutional differentiation. Many students, of course, are interested in a good university education and willing to move in order to get it. For instance, 50% of the students at the University of Bologna come from outside Emilia-Romagna (the region where the university is located) and 79% of the students of Università Bocconi, a small institution specialized in economics and located in Milan, come from outside Lombardy. But these students are not only quality-conscious: they also possess the economic resources to live away from home (in Italy student fees are low[24], but student aid is minimal). Those who cannot or prefer not to move stay at home and enroll at the nearest university, because the equal legal value of academic degrees sets them on the same level with those who attend better universities in applying to public sector and elementary or secondary teaching posts (the two sectors where graduates in law and the humanities who cannot find better jobs typically end up). As a consequence, although quality differences among universities are roughly known to students, they do not orient their choices as much as they do in other countries. In Italy, there is no academic institution which has the "signaling" power on the labour market of, say, Oxford, E.N.A. or Princeton. Students who are interested in that type of credentials in order to access top international jobs usually have the possibility to go study abroad in the first place. In general, then, the demand for institutional differentiation from the student body is weak – indeed, student associations, which are mainly left-wing, are explicitly opposed to it.

In addition to all this, an ideological factor plays a key role. Differentiation can flourish only in a setting where competence, quality and excellence are valued and rewarded. If equality is considered a very important value in society, every effort to differentiate people or institutions becomes suspicious because it can be construed as an attempt to introduce inequality. While competence and excellence in the field of education are, of course, valued, in Italy, equality is valued more. For instance, a large national survey carried out in 2003 found that for 75% of the respondents an important function of primary and secondary school was to make sure that

[24] For example, in 2004 the undergraduate fees at the University of Bologna were € 1,200 per year.

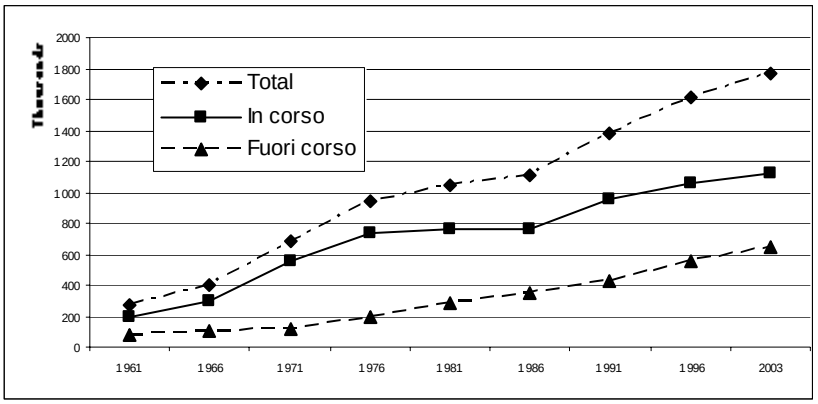
nobody was left behind, even at the expense of the more gifted students (Istituto Cattaneo-Associazione Treellle 2004). According to the same survey, a large majority of the population (81%) believed that all families, whether they have children of school age or not, should contribute equally to the financing of public education. In other words, in Italy there is the widespread and deep-seated conviction that education is a public good that should be financed by the entire national community, offered by the state to everybody, and specifically aimed at reducing differences of intellectual capacity. For instance, tracks for particularly gifted students are strongly opposed. Similar attitudes with regard to the university are common. The idea of student selection is resisted, open access to any academic institution is taken for granted, and proposals to raise student fees are contested, especially by left-wing individuals and parties (even if, of course, low fees entail a transfer of funds from the working class to the middle classes, which are disproportionately represented in the student population).

Given the divided views of the principal stakeholders – the economic community, the professoriat, the students – and the prominence of equalitarian values in Italian society, social support for a competitive differentiation of academic institutions is problematic. Ultimately, in a state university system only political decision can tip the balance one way or the other. In fact, government, not society or the academic world, was the prominent force behind the curricular reform, which, despite the difficulty of its implementation, has introduced some vertical differentiation within the university system. Given the current budget strictures and the challenges created by competition within the European higher education area, no one better than the government can appreciate that universities should be financed according to their research and teaching quality. Actually, some recent decisions of the Minister of Education seem to move in this direction: for instance, in July 2004, the minister established that the FFO should be allocated to the universities for one third on the basis of the number of FTE students, one third on the basis of teaching quality, and one third on the basis of research quality. Although the implementation of measures such as these may be delayed by conservative resistances within and outside the academic world, they show an increasing recognition by some political leaders that mass

higher education can properly function only by rewarding institutional merit and creating a context favourable to institutional differentiation. Only time, however, will show whether such a recognition will generate a coherent and stable higher education policy in the near future.

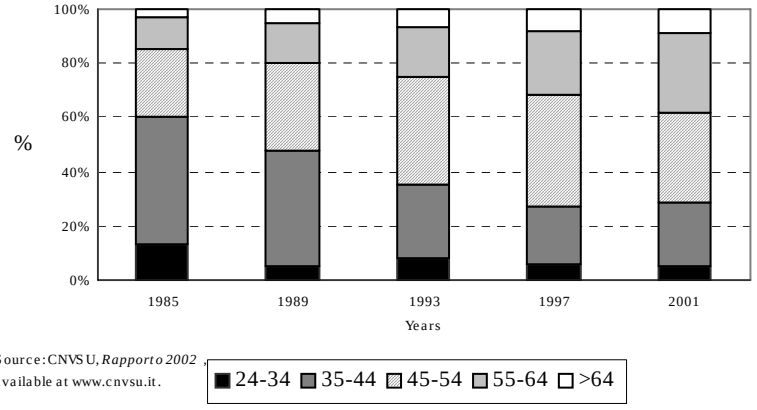
Fig.1

Student body expansion from 1960 to 2003



Source: Istat and Miur

Fig. 2
Age distribution of Italian university teachers



Source: CNVSU, *Rapporto 2002*, available at www.cnvsu.it.

Table 1

University students (1964, 1973, 1998) and graduates (2002) by social origin

%

	1964	1973*	1998*	2002 (graduates)
Upper middle class (professionals, administrators, officials, large proprietors)	22	17	21	37
Middle class (white collars)	41	33	33	30
Petty bourgeoisie (artisans, small proprietors, etc.)	18	22	22	16
Working class	7	23	23	15
NA	12	5	1	2
Total	100	100	100	100

* First-year students

Sources: Istat data; AlmaLaurea, *Profilo dei laureati 2002*, Bologna, 2003.

Table 2

1st year students by year and disciplinary group

%

	1970	1980	1985	1990	1995	2000
Sciences	14.7	13.0	12.3	11.7	11.6	11.5
Medicine	11.7	9.3	5.6	2.6	2.9	7.1
Engineering*	14.7	13.1	14.4	17.1	13.9	12.1
Agriculture**	1.8	4.2	2.7	1.7	2.9	2.1
Economics and social sciences	17.5	22.3	25.8	29.9	25.8	26.6
Law	10.7	16.2	17.7	16.4	18.7	13.7
Humanities ***	28.9	21.9	21.5	20.6	24.2	25.4
Other	--	--	--	--	--	1.5
Total	100	100	100	100	10o	100

* Includes Architecture; ** Includes Veterinary medicine; *** Includes Education and Psychology

Source: Istat and Miur

Table 3

University graduates of 2002
by parents' education, high school degree, social origin and gender

%

	At least one parent with university degree	With a *liceo* high school education	Social origin: Upper middle class	% females
Medicine	41,1	68,7	41,7	57
Law	31,2	64,9	42,7	60
Pharmacy	30,6	70,3	37,8	71
Engineering	27,4	60,5	40,0	17
Letters and Philosophy	26,0	57,3	33,7	77
Veterinary Medicine	25,1	61,8	42,0	58
ALL	**25,1**	**53,8**	**36,7**	**59**
Architecture	23,2	45,1	42,8	51
Agriculture	21,9	50,2	34,9	41
Sciences	21,9	63,5	30,4	56
Economics	21,1	43,3	37,0	50
Political Science	20,4	45,1	36,6	56
Foreign Languages	19,9	35,3	28,8	90
Psychology	16,7	44,5	34,5	83
Education	13,7	37,8	26,5	90

Source: AlmaLaurea, *Profilo dei laureati 2002*, Bologna, 2003

Table 4

Student/academic staff ratio

Academic year	All students	"In corso" students
1964-65	33	
1969-70	27	
1975-76	24	
1990-91	25	18
1995-96	28	18
1997-98	24	14
1999-00	24	14

Source: for 1964, 1969, 1976: Giglioli (1979: 73); for 1990-91 and 1995-96: Istat; for 1997-98 and 1999-00: Miur-Urst

Table 5

Age distribution of university teachers (2001)

%

Age	France	Germany	Italy	UK
<39	25	54	17	46
40-49	24	20	25	26
>50	51	26	58	28
Total	100	100	100	100

Source: Associazione Treellle 2003: 72

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AUSTRALIAN EXPERIENCE OF TRANSITION TO MASS HIGHER EDUCATION

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Introduction

This paper reviews the Australian experience of transition of higher education (or tertiary education, to use contemporary Australian terminology) from relatively small, State-based institutions at the end of the Second World War to the current mass, national system today, characterised by large student enrolments, wide ranges of course offerings, a highly diverse student body, and relatively high international student participation rates. This fifty-year period has seen a dramatic transformation from a small number of universities based in the six State capitals, and a loosely coordinated group of technical colleges and specialist teachers colleges and agricultural colleges, to a large and important group of higher education and vocational education and training (VET) providers that play central roles in the economy and society.

In the discussion, particular attention will be paid to increases in student enrolments and participation rates for both higher education and VET sectors, the organisational mechanisms used to facilitate expansion and massification, the financial arrangements and the roles of Commonwealth and State Governments. Brief attention will also be paid to some of the consequences of the transition, particularly how well the current system deals with diversity, ensures reasonable levels of access across the Australian community, and protects high quality traditional research universities. While reference is made to the VET sector, the main focus is on the higher education sector.

Tertiary education today consists of the higher education sector made up of universities and other degree granting institutions, and the VET sector which offers non-university professional, para-professional, trades, apprenticeship and preparatory courses. While almost all public higher education institutions are legally the

responsibility of a State or Territory Government, government financial support and policy leadership for higher education comes from the Commonwealth Government. Public funding for the VET sector comes from both Commonwealth and State Governments, with overall policy direction being set by the Australian National Training Authority (ANTA) that also receives substantial policy inputs from industry. Australia enjoys a federal system of government where responsibility for education is shared between Federal (Commonwealth) and State and Territory Governments although strictly, according to the Australian Constitution, education is a prescribed State rather than Commonwealth responsibility.

Public higher education consists of 37 universities and a small number of specialist institutions and which, in 2003, enrolled over 929,952 students, with 22.6 per cent of total student enrolments being fee-paying international students. About 26 per cent of student enrolments are postgraduate and almost 55 per cent of students are female. In addition, there is a growing private higher education sector consisting of two private universities (both of which have their own State-based enabling legislation) and growing group of private colleges and institutes with a total enrolment of 30,000-40,000 students. Increasingly, private institutions are enrolling an increasing proportion of international students (DEST 2003; DEST 2004).

The VET sector aims to provide students with the technical skills and knowledge they require to enter the workforce for the first time, to re-enter the workforce, to retrain for a new job, or to upgrade skills for an existing job. It consists of some 85 State and Territory Government administered technical and further education (TAFE) colleges and some 1,500 private providers. In 2003, the VET system had over 1,720,000 student enrolments in publicly funded courses. Around one in eight persons in the Australian community aged between 15 and 64 participates in the public VET system and almost 58 per cent of enrolments are of persons in the age range 25 to 64 years. Just over 51 per cent of enrolments are male and only about 5 per cent study full-time (NCVER 2002).

In many respects, the Australian experience of the transition to mass higher education closely mirrors that of many other countries. This includes:

- Student enrolment growth through expansion of existing institutions and creation of a variety of new institutions to accommodate major increases in student enrolments;
- Experimentation with the creation of new non-university institutions and types of institutions, often accompanied by serious concerns about public status and identity; and upward academic drift of courses and staff qualifications;
- Rapid growth in student enrolments and participation rates resulting in major changes in the whole higher education enterprise, particularly admissions criteria, access, academic standards, curricula, governance and academic employment;
- Higher education has became much more central to the society and economy, with the result that particular issues of higher education policy have become contested matters of public concern; and
- Higher education has been increasingly affected by economic and social trends, particularly the move to a knowledge-based economy and the effects of globalisation and increased international economic competitiveness.

On the other hand, there are some distinctive features (or relatively distinctive features) in the Australian experience, including

- Creation in 1965 and abolition in 1987 of a binary system for higher education with separate university and advanced education sectors;
- Abolition of tuition fees for higher education students in 1973, but effectively a return to tuition fees in 1990 with the introduction of the Higher Education Contribution System (HECS), a contingent-based student loan scheme with repayments of liability commencing after graduation via the income tax system;
- Reintroduction of tuition fees for coursework postgraduate fees in 1990, introduction of full-cost international fees in 1990, and full-fee options for domestic students in 1996;

- Dramatic expansion in the enrolments of international students to the current time when international students constitute over 22 per cent of total higher education enrolments;
- Major changes in planning philosophy from *ad hoc*, loosely coordinated planning at State level by various ministries, to a sophisticated, central planning by national tertiary education commissions using triennial planning, to more devolved planning to institutions which are required to produce their own strategic plans, and increased use of market mechanisms to allocate resources and decide on enrolments in different fields of study;
- Changes in the philosophy of Commonwealth funding, from government-supported student places to government-subsidised student places;
- From the early stage, extensive use of distance education delivery to expand access and provide added diversity in teaching and learning;
- Recent adoption of a multi-campus, multi-site, centrally administered university model.

In the later sections, the paper traces development of the higher education sector over five distinct but somewhat overlapping stages.

International Experience in the Transition to Mass Higher Education

In recent years, numerous countries, including many in the developing world, have experienced substantial expansion in enrolments and in the number of institutions, and have achieved mass higher education as originally defined by Martin Trow (1973) as a participation rate for 15 per cent or more of the 17 to 24 years age group. Many other countries are well on their way to achieving mass higher education.

This transformation to mass higher education status has been well documented in many publications, particularly those dealing with the recent history of post-school education, in particular nation states, and with issues such as student participation and equity, diversification,

and graduation rates (eg Anderson & Vervoorn 1983). Other work has deliberately addressed national issues within the broad context of the transition to mass higher education (eg Parry 2003; Department of Employment, Education and Training 1993).

More interesting from the viewpoint of this paper is the published work dealing with growth and transition from a comparative perspective. Some of the most important early observations were made by Martin Trow (1973) who observed that higher education systems change fundamentally and structurally as they grow or expand over time. He argued that the fundamental character of a nation's higher education system, such as its attitudes to access, its academic standards and curriculum, its internal governance, and the permeability of its boundaries with the political system, change in proportion to how a society's young people attending college and university grows. He identified 15 per cent participation rates as the threshold in the transition from elite to mass higher education and 35 per cent for the transition from mass to universal.

The argument behind this perspective is that as the proportion of stakeholders in the higher education system grows (higher participation rates translate into higher proportions of stakeholders), the centrality of the system itself and its basic institutions (including political institutions) increases to the point where the system becomes a quasi-public utility. At that point, 'boundaries between higher education and the political system blur as higher education becomes a central venue for the achievement of public policy goals, and the faculty becomes the servant of a new academic order with new rules, new opportunities, and new dangers' (Finkelstein 2003). The importance of Trow's observations is that they identified key transition points that can be observed generally in higher education systems as they expand and cope with the same basic issues and dilemmas. While Trow's thesis has not gone unchallenged (Smith 1993), particularly as to the extent to which other countries have followed American patterns (Kitamura 1981) and transition points (Goedegeburre et al 1992), Trow's work has stood the test of time and continues to guide much of current thinking.

Efforts to expand higher education systems have often been based on structural reforms leading other scholars to focus on broad

tendencies in structuring higher education systems. One common tendency has been to broaden the role of institutions to accommodate different needs of students, employers and different needs of society generally. Institutions and perhaps sectors may have different emphases and orientations, but this is within a single comprehensive framework. An alternative strategy used in a number of countries has been to structure specialist sectors and institutions to serve specific needs, most commonly to establish vocational educational institutions to specialise in developing skills for employment, and higher education institutions to provide general education and education for high status and high salary occupations. A variation of this approach as applied in England with the polytechnics and in Australian with colleges of advanced education was to differentiate separate degree level sectors, one with a more vocation and applied emphasis and the other with a more traditional academic emphasis (Moodie 2003).

As the late Dorothea Furth argued, both strategies accommodate diversity, but in structurally different ways:

> The first dilemma faced at the time [ie the late 1960s and early 1970s] was whether to opt for a strategy which enhanced diversification within institutions or between different types of institutions. The first option implied the development of short- and long-cycle higher education courses with a broader, but single, type of institutional framework, primarily in existing or newly created universities. The concept embodied in this approach was that of comprehensive universities. The second option implied the development of short-cycle higher education outside the universities in separate institutions of higher education – short-cycle and/or non-university institutions – with distinct missions and profiles. The development of a new or larger non-university sector was to be attained through the stronger support of existing postsecondary colleges, the upgrading of secondary, primarily technical schools, and/or the creation of new institutions (Furth 1992, p .1217).

In the 1960s, there was considerable support for the idea of comprehensive universities or multipurpose institutions. Germany, in fact, developed a plan to transform all German universities into comprehensive *Gesamthochschulen* but in the end only a few were set

up (Cerych 1977). However, in many countries including Australia, there was enthusiasm for the idea of diversification among different types of specialised institutions, leading to the establishment of new sectors, often through of combination of creating new institutions and transforming existing ones.

This approach appealed to many leading scholars in comparative higher education. Clark, for example, favoured this option, arguing that, as higher education systems become larger, more sophisticated and serve different roles and cater for different students, they function better if they are structured in sectors (Clark 1983). Kogan (1993) made a similar argument while Husen (1976) and others argued for maintenance of sectors in order to promote excellence in the more selective sector. More recently, Meek (2000) has argued that structuring higher education into sectors promotes programmatic diversity or the capacity of the system to offer diversity of programs for a diversity of learners and a diversity of outcomes.

On the other hand, the comprehensive institution has not been without its strong supporters. For example, recently in Australia, Doughney (2000) has highlighted the advantages of Australia's 'dual sector' universities (embracing both higher education and VET) while the idea of comprehensive universities appeals to particular advocates of merging higher education and vocational education to create a seamless web in order to advance the notion of life long education.

Despite some obvious advantages of specialisation, segmented systems share similar problems, particularly related to seeking recognition and identity within a society, and, above all, achieving status and parity of esteem with more traditional institutions. An OECD report (Furth 1973) of three decades spoke aptly of the gaps between 'noble' and 'less noble' institutions and the effects of segmentation on staff recruitment and recognition of credentials, leading many non- university institutions to try to resemble as far as possible traditional universities, resulting in a process often called 'academic drift'.

European experience with growth and change drew attention to the stages that higher education systems followed in their transition stages. For example, Teichler (1988) identified three distinct chronological phases in the policies and debates with a number of industrialised countries. The first phase from the later half of the 1950s

to the early 1960s consisted of growth using existing structures with the main concerns relating to secondary education. The second phase extending from the early 1960s to the early 1970s was characterised by the search for new structures to cater for more diverse student backgrounds and more diverse graduates, and during this period the idea of diversified systems became popular. The third phase from the early 1970s saw a drop in expansion rates and financial pressures leading to a loss of optimism and questioning whether, in fact, expansion had increased opportunities for traditionally disadvantaged groups.

More recent work has paid attention to the economic and social drivers of massification, particularly the decline of the industrial economy, the rise of information technology, forces of international economic competition and the new forms of academic capitalism. As societies move from goods-based to service and knowledge-based economies, and with the impact of globalisation, new pressures operate for organisational efficiency and flexibility, leading in turn to a restructuring of work. In turn, this has had major impacts on government administration and on higher education, leading to higher education being increasingly regarded as an industry subject to industrial and capitalist notions. This transformation is well illustrated in major studies such as that of Slaughter and Leslie (1997) on academic capitalism, and Marginson and Considine (2002) on the 'enterprise university'.

One difficulty in making comparative studies of changing higher education systems has related to definitions of different types of courses. Considerable recent progress has been made through use of UNESCO's (1997) international standard classification of higher courses between tertiary type 5A programs which are 'theoretically based/research preparatory or giving access to professions with high skill requirements and tertiary type 5B programs 'which are practical/technical/ occupationally specific'. These definitions, among other things, may lead to more accurate statistics on participation rates and help clarify the discussion of multi-sector systems.

Student Enrolments and Participation Rates

As already noted, over the past half century Australia has seen dramatic transformation in the higher education and VET systems,

with very substantial expansion in student enrolments and increasing participation rates.

Table 1 provides data on enrolments for higher education from 1945 to 2003. However, it should be noted that there are some limitations in the data presented here:

1. Figures for 1945 to 1964 are for universities only and do not include enrolments for a variety of senior technical colleges and specialised institutions in fields such as teacher education and agriculture.

2. Figures for 1965 to 1989 are for universities and colleges of advanced education, with government teachers colleges being included only from 1973 and non-government teachers colleges only from 1974.

3. After 2000, some additional institutions and government-supported enrolments are included in the official statistics, while the previous distinction between 'full-time', 'part-time' and 'external' students was replaced by a new system of classification into 'full-time' and 'part-time' in the three categories of 'internal', 'external' and 'multi-mode' delivery.

Despite these problems, the overall pattern is clear. Higher education enrolments increased from about 15,586 in universities and another 10,000 in non-university institutions in 1945 to a total of 110,350 in 1965, 370,016 in 1985, and 929,952 in 2003. Two particularly notable features are the importance of external or distance education since the 1950s and the recent very substantial increases in the enrolment of international full-fee students. By 2003 international students constituted almost 23 per cent of total enrolments, with a number of universities having in excess of 40 per cent international students.

The VET sector has shown a similar pattern of very substantial enrolment growth, although time series statistics are more limited. Technical colleges enrolments (and not students) in 1945 totalled 110,841. This grew to 360,755 in 1965. With the introduction of the TAFE system, student enrolments climbed to 662,406 in 1975, to 871,689 in 1979 and to 1,117,900 in 1996.

Participation rates in both university and VET sectors are somewhat difficult to secure. Anderson and Vervoorn (1983, pp 20-

21; p 30) calculate that university participation for undergraduates in the 17 to 22 years age group increased from 2.1 per cent in 1945 to 6.9 per cent in 1965 and to 11.9 per cent in 1981, while participation rates for colleges of advanced education increased from 2.0 per cent in 1985 to 9.6 per cent by 1981. This means that by 1981, the undergraduate higher education participation rate was 21.5 per cent, well over the 15 per cent threshold defined by Trow.

Table 1: Australian Higher Education Students, 1945-2003

Year	Total Students	Proportions (percentages)				
		Full-time	Part-time	External	Female	International
1945	15,586					
1950	30,630	62.7	28.1	9.2	21.6	
1955	30,792	62.3	27.9	9.8	21.9	
1960	53,633	58.7	31.1	10.2	23.1	
1965	110,250	55.4	38.2	6.4	24.0	
1970	161,455	57.9	36.1	5.9	27.1	NA
1975	276,559	63.4	30.3	6.4	40.6	NA
1980	329,523	54.5	34.7	10.8	45.3	NA
1985	370,016	55.2	32.5	12.3	47.6	NA
1990	485,066	61.7	27.4	10.9	52.7	5.2
1995	604,176	58.8	28.7	12.4	53.9	7.6
2000	695,485	58.6	27.6	13.7	55.2	13.7
2001	842,183	NA	NA	NA	54.3	18.6
2002	896,621	NA	NA	NA	54.4	20.6
2003	929,952	65.1	NA	15.1	54.4	22.6

Source:
Department of Education, Training and Youth Affairs (2001) Higher Education Students: Time Series Tables 2000, Canberra; Department of Education, Science and Training (2003 and 2004) Selected Higher Education Statistics, Canberra; and D. S. Anderson & A. E. Vervoorn (1983) *Access to Privilege: Patterns of Participation in Post-Secondary Education*, Australian National University Press, Canberra.

Comparable data is somewhat difficult to secure for post-1981 using the 17 to 22 years age group, since various research studies and official reports often used other age brackets, or failed to define participation for particular age groups. For example, the first West Committee Report (1997, p 95) reported that participation rates for higher education had increased from about 37 per cent in 1985 to

about 50 per cent in 1996 but did not precisely state to what age group this referred. The same report also stated that Australia's participation rate was higher than the OECD average for 18-21 year olds, lower than average for 22-25 year olds, and equal to average for 26-29 year olds.

More recently, the Nelson report (2002) stated that, based on official statistics, in the year 2000 Australian 15-24 year olds had a participation rate in higher education of 26.3 per cent and in the VET sector of 40.0 per cent. On the other hand, a research study published by the Commonwealth Department of Education, Training and Youth Affairs (DETYA 1999) had reported as follows:

- Higher education participation rates for 15-19 year olds increased from 6.5 per cent in 1985 to 10.7 per cent in 1997, while participation for 20-24 year olds increased from 9.1 per cent in 1985 to 15.0 per cent in 1997.
- VET participation rose from 13.9 per cent of 20-24 year olds in 1985 to 17.4 per cent in 1997, while participation of 15-19 year olds decreased from 21.8 per cent in 1985 to 19.1 per cent in 1997.

It is difficult to reconcile these different sets of figures.

Curiously, international statistics appear to show higher participation rates for Australia than domestic figures. For example, the latest issue of the OECD publication *Education at a Glance (*OECD 2004) shows that:

- 20 per cent of Australia's 25- to 64-year-old population hold a Tertiary Type A qualification (compared to the OECD average of 15 per cent) while 11 per cent hold a Tertiary Type B qualification (compared to an OECD average of 8 per cent);
- 45.4 per cent of persons in Australia at the typical age of graduation have completed a Tertiary Type A program (compared to an OECD average of 31.8 per cent);
- Australians can expect 21.1 years of schooling under current conditions (compared with an OECD average of 17.2 years); and
- A 17-year-old in Australia can expect 3.6 years of tertiary education (compared with an OECD average of 2.7 years).

According to figures produced by the UK Higher Education Statistics Agency (2004) using OECD data, Australia in 2001 had a participation rate of 59.0 per cent for University Level higher education courses compared with a country mean of 44.9 for 17 other OECD countries.

The Transition to Mass Higher Education

Stage 1: Building a National, Commonwealth Government Led System, 1945 to 1965

At the end of the Second World War, Australia had a relatively small and impoverished higher education system consisting of one university located in each of the six state capitals, two small university colleges (in Canberra and Armidale) and a relatively small collection of non-university colleges. Together university enrolments totalled 15,586 and had changed little since the 1930s, while non-university institutions probably enrolled a total of 10,000 post Year 12 students. With the exception of a small number of church related teachers colleges, this was a public system, owned and funded by the various State Governments that provided funding on an annual basis. Planning was on an *ad hoc* basis and the various institutions related to a range of different government departments, including education, agriculture and health. Research activities were modest and the PhD degree had not been yet introduced.

With the return to study of large numbers of post World War II ex-service persons supported by a generous scholarship scheme, student enrolments almost doubled in five years, peaking for universities at over 30,000 students in 1950. Enrolment pressures placed institutions under great strain, but fortunately, the Commonwealth Government was persuaded to provide assistance on an annual basis that continued into the 1950s. As part of its post-war reconstruction efforts, the Commonwealth Labor Government in 1946 established in Canberra the Australian National University as a research/post-graduate university and also put in place a competitive scheme of Commonwealth scholarships to support undergraduate university study. Enrolment pressures forced the New South Wales Government to establish the University of Technology in Sydney in 1949 and in 1954 to upgrade the New England University College in Armidale to full university status. An important condition placed on the

University of New England was that it would offer external studies (or distance education). This turned out to be a most successful move and the success of this University with this form of delivery resulted in distance education delivery becoming an important ongoing feature of Australian higher education. For much of the period since 1950, distance education enrolments have exceeded 10 per cent of total students and today over 15 per cent of Australian students study by distance education or multi-mode delivery.

Commonwealth involvement in universities eventually prompted Prime Minister Robert Menzies in 1957 to set up a special committee of enquiry into the future of Australian universities, chaired by Sir Keith Murray, the Chairman of the British University Grants Committee (UGC). This first national assessment of Australian universities produced an impressive report that led to Commonwealth Government acceptance of ongoing financial support to universities and to the effective creation of a national university system. The report argued that the most urgent need for Australia was 'the provision of sufficient graduates' (Anderson & Vervoorn 1983, p 22). In 1959, largely following the British UGC model, the Australian Universities Commission was created as the key university-planning agency and to administer Commonwealth financial support. Planning and funding were on a triennial basis, with shared Commonwealth-State funding for both recurrent and capital expenditure. The regular stream of recurrent funding and quite generous capital grants, plus the creation of the Commonwealth Research Grants Committee in 1964, placed universities on a much more secure financial basis and facilitated State Government efforts to expand existing universities and to create a number of new universities, many of which were located in green field, outer suburban sites, in capital cities and in regional centres. By 1965, university enrolments had increased to 83,349, which represented a participation rate of 6.9 per cent of the 17-22-year-old age group. Over 6,000 students were higher degree research students, representing an increase of 600 per cent over figures for a decade earlier.

Stage 2: Segmentation with Separate CAE and TAFE Sectors, 1965-1987

The second stage (lasting a little over a decade) saw further substantial change, driven by a combination of student enrolment

pressures, changes in governments at the federal level and changing economic conditions. In the earlier 1960s, under the pressure of rapidly increasing enrolments and concerns about the country's financial capacity to provide sufficient additional student places, the Menzies Government appointed another committee of enquiry on tertiary education, which at that time meant what is now referred to as higher education. This committee reported in 1964, recommending further expansion of university enrolments but, more importantly, creation of a new advanced education sector that would cater particularly for more applied and vocational studies for students who have completed a full secondary education course.

In 1965 the key recommendations of the Martin Committee were accepted and the advanced education sector was created, soon with its own coordinating body parallel to the Australian Universities Commission. While a small number of new institutions were created, this new sector grew quickly with the transfer of a large number of existing colleges, especially senior technical colleges, agricultural colleges, music colleges and health science colleges. Then in the early 1970s, first some thirty government teachers colleges and then some non-government teachers colleges were drawn into this sector. Table 2 provides detail on enrolment growth in both CAEs and universities over this period.

Table 2: Student Enrolments and Participation Rates in University and Advanced Education Sectors 1965-1987

	University		**CAE**		**Higher Ed**
	No.	% 17-22 years	No.	% 17-22 years	No.
1965	83,349	6.9	24,330	2.0	
1970	115,630	6.8	37,625	2.6	175,930
1975	148,338	9.3	122,557	8.9	270,017
1980	163,156	9.6	159,466	9.8	322,622
1985	174,817		195,231		370,048
1987	180,803		212,931		393,734

Source: D. S. Anderson & A. E. Vervoorn (1983) *Access to Privilege: Patterns of Participation in Post-Secondary Education*, Australian National University Press, Canberra.

It will be noted that CAE enrolments grew very quickly reaching 37,625 by 1970, 159,466 by 1980 and 195,231 by 1985, thus exceeding university enrolments. While originally advanced education institutions were intended to provide diplomas and certificates and be 'equal to but different from' universities, they quickly took on many of the characteristics of universities with the introduction of bachelor's degrees and postgraduate qualifications, the appointment of academics with PhDs and the beginnings of research activity. By 1987, 72 per cent of advanced education enrolments were in bachelor's degree and postgraduate courses.

The election of a Labor Party Government led by Mr Gough Whitlam in 1972 brought further important changes. In order to increase access to higher education, in 1973 the Whitlam Government agreed with the States to take over full financial responsibility for the funding of universities and colleges of advanced education. Immediately it abolished tuition fees (which had contributed about 20 per cent of teaching costs) and replaced the system of Commonwealth scholarships based on academic merit by a system of means-tested student financial assistance. However, since triennial allocation had been set before the Whitlam Government took office, grants to universities and CAEs did not change during the three years the Whitlam Government was in office, although higher education did benefit from some special allocations. However, technical colleges benefited to a major extent, with the Commonwealth providing substantial financial assistance and creating a national TAFE sector with its own coordinating agency. With additional funding support, TAFE enrolments grew quickly, increasing from a total of 666,544 in 1975 to 871,689 in 1979 and 1,117,900 in 1996.

The Labor Government was defeated in late 1975 and replaced by a Coalition Government led by Mr Malcolm Fraser. The existing policy framework continued, although the three separate coordinating commissions were replaced by a single Commonwealth Tertiary Education Commission. Financial pressures, some reduction in student demand with reduced retention rates in secondary education and an over-supply of school teachers prompted the Fraser Government to abandon triennial funding and planning, somewhat reduce allocations to institutions, and undertake some controversial

mergers of colleges of advanced education, leading to a reduction in the number of institutions from about 80 to about 50.

The Fraser Government was replaced at a general election in 1983 by a Labor Government, led by Mr Bob Hawke, that was to turn out to be one of the strongest reformist administrations ever for higher education. Initially, however, relatively few changes were made in higher education, but the new Government soon became involved in major reform of the Australian economy, deregulating exchange rates, reducing tariffs and setting out to expand the export base from essentially farm products, minerals and coal to include specialised manufacturing and a range of services. The Government also sold off various government enterprises and initiated major reform of government administration. These changes were important for higher education, especially requiring substantial increases in the number and quality of tertiary education graduates and demanding increased efficiencies in the operation of the tertiary education sectors.

Stage 3: Dramatic Reforms and Major Student Expansion, 1987-1996

Major reforms in higher education and very substantial increases in student enrolments followed the re-election of the Hawke Government in 1987 and the appointment of Mr John Dawkins as Minister in charge of a 'super' Department of Employment, Education and Training. Almost immediately, Dawkins initiated a series of major reforms that resulted in abolition of the binary system and replacement by a New Unified System of Higher Education made up of some 36 comprehensive universities, replacing through institutional mergers the previous arrangement of some 19 universities and 44 colleges of advanced education. The reforms also included increased research funds allocated more selectively, with increased use of competition, reforms in governance to give greater authority to Vice-Chancellors, academic employment reforms, and substantial increases in funds to facilitate major expansion in enrolments. In addition, tuition fees were re-introduced via the Higher Education Contribution Scheme, that is effectively a contingent loan scheme whereby students repay their financial obligations through the income taxation system only after their annual income reaches a specified level, originally set as the average income for the Australian community. Despite strong opposition from students and academics, these reforms were implemented quickly and

successfully and there followed a period of rapid expansion with total enrolments climbing to 485,066 by 1990 and 695,485 by 2000. However, during the second half of the 1990s, rapid expansion in domestic HECS based students levelled off.

In addition, under Dawkins as Minister, universities were strongly encouraged to attract international students on a full-cost fee basis, and then, from January 1990, were required to charge all new international students tuition fees to cover the full cost of their education. This was one expression of the new economic policy of expanding the importance of services in Australia's exports. About the same time, provision was made for universities to elect to enrol domestic postgraduate course work students on a fee basis. Both initiatives proved highly successful, attracting large numbers of students and bringing into the more entrepreneurial universities substantial sums of discretionary income. International student numbers grew from 18,207 in 1988, to 95,607 in the year 2000, while by 2002 over 70,000 domestic postgraduate fee paying students were enrolled.

These reforms were largely driven by economic reforms which fundamentally changed the role of higher education to the extent that human capital investment came to be seen as being instrumental to economic reform. The 1998 White Paper on higher education expressed this as follows:

> The society we want cannot be achieved without a strong economic base. In Australia, this now requires a greatly increased export income, a far more favourable balance of trade than at present and a considerable reduction in our external debt. It also requires a shift in the traditional profile of our economic activity. Our industry is increasingly faced with rapidly changing international markets in which success depends on, among other things, the conceptual, creative and technical skills of the labour force, the ability to innovate and be entrepreneurial (Dawkins, 1988, p 6).

Closely associated with changes in economic policy were new ideas in public sector management that became common in Australia from the mid-1980s (Halligan and Power 1992; Wanna et al 1992). These ideas were quickly taken up in various government reports and

in reform efforts at both Federal and State levels. Some ideas were generated locally while others came from the academic and scholarly literature (e.g. Ferlie et al 1996) or from monitoring the experience of other countries. Others still came via international bodies, such as the Organisation for Economic Development and Cooperation (OECD), in which Australian ministers and officials played active roles.

OECD ideas and participation by Australia in OECD discussions influenced higher education reform in Australia to an important extent. A particularly influential report, entitled *Universities Under Scrutiny* (OECD 1987), had an important impact on the reform direction under Minister Dawkins whose Green Paper (Dawkins 1987, p iii) quoted from this publication in its introduction. *Universities under Scrutiny* had emerged from OECD concern about the changing environment for higher education, particularly changing economic conditions which had led first to increased affluence and in turn to increased student demand, but then in the late 1970s to recession, high inflation and high unemployment following the major oil price rises. The final section of this publication drew attention particularly to the need for 'career-oriented courses of study', greater public accountability, new forms of university governance and for universities to be more closely involved with their communities – themes all taken up in the Green Paper of Minister Dawkins.

In the later years of this stage, under the leadership of Mr Paul Keating as Prime Minister, funding levels were reduced for the higher education sector. Part of this was associated with a move from central fixing for academic salaries to enterprise bargaining within each university and a consequential decision to abandon automatic increases in university grants to reflect salary increases and instead to adjust university operating grants in line with price inflation. During the same period, TAFE nationally came to be known as the VET sector, reflecting the growth of private providers, with the name TAFE from then on being used to refer to government colleges. About the same time, Commonwealth and State Governments agreed to the establishment of the Australian National Training Authority.

Stage 4: Application of Market Driven Ideology and Privatisation, 1996-2004

This final stage, which began with the election of the Coalition Government led by Mr John Howard in 1996, has essentially

continued and somewhat accelerated previous trends, with achievement of an even more diverse student population associated with substantial increases in international student enrolments; a more market-oriented and competitive regulatory environment, with less institutional dependence on government operating grants and substantial increases in institutional generated revenue; a more student focussed approach to course offerings and student learning; new access and equity initiatives; major expansion in research activity and research training, with closer university-industry research links; expansion of post-graduate studies and increased competition for resources; new quality assurance initiatives and a more international orientation; and, within universities, a more corporatist approach to institutional management and governance.

The Howard Government continued and extended the application of New Public Sector Management to the higher education sector, continuing to draw on OECD documentation and Australian experience elsewhere in the application of national competition policy that attempted to apply business ideas about competition to the public sector. Significantly, the Howard Government's 1996 report of its National Commission of Audit began with the quotation from an OECD publication noting that 'these same pressures apply in Australia and require a fundamental re-think of where and how governments are involved in the community's activities' (National Commission of Audit, 1996, p. 9):

> A number of key factors have come together to make reform a burning issue. Key among these are: the development of a global market place, which highlighted the impact of government activities on national competitiveness; a perception that public sector performance was inferior to that of the private sector; limits to future growth in the public sector, given budget deficits and high levels of public debt; a lowering of expectations about government's ability to solve economic and societal problems by traditional remedies; citizen's demands for improved responsiveness, choice and quality of service; and demands from public sector staff. Put together, these pressures have resulted in a reappraisal of the rationale for government intervention and re-examination of public sector management and performance (OECD, 1995, p. 19).

The first new public management ideas applied to higher education in Australia were simply ideas about efficiency and effectiveness, the application of improved management practices and the use of performance indicators for accountability purposes (Commonwealth Tertiary Education Commission 1986). But from the early 1990s, the emphasis had changed with the introduction of the concepts of competition and contestability, or more commonly, market forces (Harman 2000). Under the Howard Government, contributions to University operating expenses fell and by the year 2000, less than 50 per cent of general operating expenses came from government grants. Moreover, the official language changed for the public universities from being 'government funded' to being 'government subsidised'. More recently, increased support has been given to private institutions and in the 2004 general election campaign, the Howard Government (which was returned to office) promised substantial additional support to private higher education institutions, including funding for Notre Dame University to establish a new campus in Sydney with funding for new HECS based student places in medicine, teaching and nursing.

In many respects, the most dramatic and far-reaching changes since the early 1990s relate to policies and incentives leading to substantial growth in self-earned income by universities. This has fundamentally changed the operation of universities and their relationships with the state. Universities have not only become increasingly self-sufficient financially, but the structural relations with government have changed from being academic referenced in a traditional form, to being state referenced, and then to being market referenced. The extent of these changes, first pulling away from traditional academic orientations and then pushing towards stronger market influences, were anticipated by few when the major reforms of the late 1980s commenced.

Two main sets of drivers have been influential in this change of policy direction. The first were important push factors, including a shift from state support to state assistance and from tight to loose regulation, encouraging universities to be more responsive to varying student needs and diversifying their course offerings so as to widen user choice. The second were pull factors, including changing demand for higher education. While domestic student demand has

largely levelled out, international student demand has continued to increase. Associated with this at both undergraduate and postgraduate levels has been demand for further course diversification with the growth of the knowledge economy, facilitated by the expanding capacity of communications and information technology on a global basis. Substantial financial rewards are now available from the commodification of knowledge and the commercialisation of academic work.

In 2003, the Howard Government introduced further reforms providing additional funding of $1.5 billion over five years but most of it tied to particular projects. It also gave universities the freedom to increase HECS fees by up to 25 per cent and increase the proportion of full fee domestic undergraduate students in any course up to 50 per cent. The Labor Party opposed these measures in the 2004 general election campaign, promising almost identical additional funding but promising to roll back any increases in HECS and abolish full fee undergraduate enrolments (which had first been introduced by the Howard Government in 1996). Significantly, neither side of politics came up with sufficient additional funding to enable universities to reduce staff-student ratios, which have increased from about 1:12 in 1993 to about 1:22 today.

Following bedding down of the major institutional mergers in the late 1980s and early 1990s, the overall institutional landscape has remained remarkably stable since the early 1990s, except for the break-up of the federated University of New England, the more recent recognition of the Sunshine Coast University College as a full university, the founding of Notre Dame University and the major expansion of private higher education providers. Establishment of numerous additional campuses and study centres dramatically increased the number of geographic sites used for course delivery, and support off-campus study and flexible learning. By 1999, the 37 public universities operated from a total of 150 campuses. Of these, 99 were located in metropolitan areas and 48 in non-metropolitan areas (The National Report on Higher Education in Australia 2003). In addition, many universities operate various study centres and access centres. These developments, in turn, have played an important role in extending access, with significant gains being made especially by women and students from non-English backgrounds. Access and

retention rates, however, remain matters of considerable concern for particular groups, especially Indigenous students, students with disabilities, and students from rural and isolated areas.

Throughout the 1990s, successive Commonwealth Governments have sought to facilitate increased complementarity and cooperation between the higher education and VET sectors. This policy direction was facilitated with the establishment of the Ministerial Council on Employment, Training and Youth Affairs, which determines national policy and priorities, strategic directions, funding arrangements and planning processes for vocational education and training on the advice of the Australian National Training Authority. Various government and institutional efforts have resulted in the establishment of more diverse pathways from the compulsory years of schooling to both work and to further education and training. Post-school institutions introduced more flexible means of delivery to enable students to take studies in conjunction with other commitments; off-campus programs and flexible learning in particular reduced attendance requirements at tertiary institutions. The traditional roles of particular institutions have been broadened with several institutions offering degrees while some higher education institutions offer vocational education and training courses. A number of combined higher education and TAFE institutions now operate in multi-campus environments in regional centres while additional multi-sector facilities provide TAFE, higher education and the senior years of schooling on the one campus. These new cross-sectoral institutions include those which operate primarily on an independent stand-alone basis in regional areas, and those which form parts of networks with a university in a metropolitan area (Shoemaker 2000, p xix). Increased articulation between sectors not only recognises the value of skills obtained, but allows for concurrent studies. In some instances, senior secondary students are able not only to complete schooling but also obtain a vocational certificate. With support from State governments and industry associations, a series of reforms helped specify and standardise the vocational qualifications required for entry into the major industry sectors and to the labour market, while other efforts resulted in a qualifications framework covering both vocational education and training and higher education.

Assessment

While many Australian academics are divided in their views about recent changes, there are many positive aspects that must be acknowledged. Overall, the current structure works well with the bulk of enrolments located in 37 large and comprehensive, multi-site, public universities, with the average size being well over 20,000 students. This means Australian universities have been well placed to compete internationally in the new era of globalisation. As a result of the consolidations of a little more than a decade ago, new capital funds have been much more strategically spent. Over the past decade, Australian universities have shown impressive achievements in entrepreneurial activity, with many universities generating substantial proportions of their budgets and a number of universities already operating major overseas campuses.

While there is an ongoing debate about diversity in the higher education sector and the extent to which each of the universities should specialise to an increased degree, it is clear that universities today are certainly more diverse institutions compared to 1987 institutions in terms of their research activities, their course offerings, their methods of delivery and the particular emphases given within different areas of study. It is generally recognised that teaching is much more student centred, with substantially increased emphasis on student assessment and the defining of specific graduate attributes to which courses should aspire. With the introduction of HECS and arrangements for full-fee based courses, there is much greater awareness of the buying power of students. New national quality assurance mechanisms have been put in place, depending on regular external institutional audits and the use of national protocols and procedures for the accreditation of private providers.

The change to a more student-centred approach not only generated innovations in teaching and learning and in student assessment, but resulted in major increases in the number of courses offered and how courses are offered. Most students appear to be primarily interested in choosing courses to give them a career advantage, whether it be through more vocationally-oriented courses, courses linked directly to industry or professional association accreditation, or double degrees and second degrees. As a result, there has been a major explosion in

the number of courses offered and in courses in new disciplines and professional areas. For example, the number of arts courses increased from about 2000 in 1990 to over 4000 in 2000, while over the same period the number of undergraduate science courses increased from 123 to 199 (The National Report on Higher Education in Australia 2003). Around 11 per cent of all domestic undergraduate students undertake combined or double degrees. Students elect to study two separate courses and receive two qualifications at the end. Although many double degrees take five or more years to complete (especially if one of the courses in law), it is possible for some students to complete two three-year degree courses in four years.

Since the Dawkins reforms, university research has prospered. Both Labor and Coalition Governments have shown more interest in investing in research and R&D and consequently have funded various major programs aimed to enhance Australia's R&D capacity. With the abolition of the binary system, an effort was made to 'level the funding playing field', with the introduction of separate funding streams for teaching and research. Allocations to support research were competitively made, using simple performance indicators of research council grants attracted, publications and higher degree completions. However, these allocations totalled only about 5 per cent of total operating grant funding (compared with about 20 per cent in England), with the result that even the leading universities suffered with decreasing operating grant funding (Harman 2000). However, more recently, leading universities have benefited considerably from increases in research infrastructure funding and substantial competitive funds for special research centres and institutes. Additional research funding has resulted in a substantial proportion of university research in leading research-intensive universities being conducted in research centres and institutes, rather than in regular academic departments. Research productivity of university academics has increased appreciably and the latest data show an increased proportion of citations internationally for Australia. PhD enrolments have increased rapidly since the abolition of the binary system, but the most rapid increases in PhD enrolments unfortunately have been in newer universities, which are the least well equipped in terms of research performance and infrastructure to provide suitable

environments for PhD training. Between 1990 and 2003, PhD enrolments grew from 9,298 students to 35, 875 students.

Provision of adequate financial support for the general operation of universities as opposed to support for research is an ongoing problem. Despite the importance of universities in Australian life, neither side of politics appears to be willing to substantially increase university grants or subsidies in order to reduce the pressures on departments and teaching staff. With the return of the Coalition Government, it appears likely that all or at least most universities will increase their HECS fees and try to attract increasing numbers of full-fee students. This, of course, raises significant equity issues but a distinct possibility for the future is a system were all universities charge fees substantially higher than the current HECS with government HECS type loans, and for a new form of competition to emerge based on scholarships and other forms of financial support. If this eventuates, it will raise important issues about what the role of Government should be if it provides, say, no more than 20 per cent of university funds, plus the student loan system.

The results of substantial Commonwealth Government and institutional access and equity efforts have been mixed. As already noted, over the past decade considerable progress has been made in improving participation and access rates as a result of significant expansion of the higher education sector. In 1989, approximately 39 per cent of Australians were likely to attend university at some stage in their lives, whereas by 2000, this figure had risen to 47.2 per cent. The proportion of undergraduate students with no previous experience of higher education increased steadily through the early 1990s, peaking at 62.2 in 1996. The proportion of female students rose steadily through the 1990s, achieving 55.1 per cent by 1999.

The situation, however, differed substantially for different recognised equity groups. The most dramatic improvements in participation rates were among women undertaking non-traditional courses and people from non-English speaking backgrounds. On the other hand, the representation of the Indigenous populations, people from socio-economically disadvantaged groups, and from rural and isolated areas changed little over the decade. Continuing low participation amongst these groups has implications for their lifetime

chances of participation in any form of post-school training and their effective participation in the labour market.

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BEYOND PRIVATE GAIN: THE PUBLIC BENEFITS OF HIGHER EDUCATION

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Much to our regret, we were unable to attend the Israel meetings in person. We were, however, given the opportunity to make a live video presentation to the conference. Given the format, we chose to make informal remarks based on a chapter we were then preparing (jointly with Professor Matthew Hartley of the University of Pennsylvania's Graduate School of Education) for the *International Handbook on Higher Education*. (J.F. Forest and Philip Altbach eds. Vol. I, 2005.) Rather than rely on the transcript of an oral presentation, it seemed preferable to re-publish- with the kind permission of the editors - the more organized and concise text of the chapter in the *Handbook*. This choice also led us to omit the questions and answers that followed our presentation, because our printed account for the most part already takes into account the many helpful comments made by the audience.

David Bloom, Henry Rosovsky

* * * * *

Governments have provided longstanding support for higher education in the United States and elsewhere. The original justification for such support was that higher education, like primary

and secondary education, confers critical and sizable benefits on the public. This justification was supported by philosophical reasoning and backed by qualitative and anecdotal evidence.

In the decades after World War II, economists devised a more precise analytical method for assessing whether private and public investments in education are justified. Building on Adam Smith's original conception of human capital, economists such as Milton Friedman, Gary Becker, and Jacob Mincer developed the "human capital" theory as a way of understanding and estimating the value of education to both individuals and society. This framework, which focuses on comparing the costs of education with the wage gains that accrue to individuals when they acquire more education, lends itself quite naturally to quantitative analysis.

Guided by this framework, empirical work on human capital has been extremely influential in encouraging the view that the benefits of higher education are mainly private, for which the individual should, in large measure, pay. This perspective, championed by economists, has overshadowed the view of higher education as conferring sizable public benefits.

This essay revisits the public benefits of higher education, with particular, but not exclusive, emphasis on the U.S. experience. It focuses on the nature and magnitude of these benefits and the extent to which they have been inadequately addressed. We are careful to define social benefits to include the *private* benefits enjoyed directly by the individual, such as a higher trajectory of post-school earnings. But social benefits also include *public* benefits: those benefits that society derives from higher education beyond those enjoyed by the individual himself or herself.[1] Note that "social" does *not* mean "non-economic." It refers, instead, to all benefits (economic or other) that accrue to society as a whole (including the portion of those benefits that accrue to individuals).

In the first section we review aspects of American history concerning the public purposes served by higher education. We also critically examine the economic arguments purporting to document that most of the benefits of higher education are private in nature, or

[1] See Bloom and Sevilla (2004).

captured through private action. The second section examines evidence concerning the range of public benefits of higher education.

The Benefits of Higher Education: A Short History

Public Spirited

All forms of education potentially serve both public and private purposes. When one looks at the history of American higher education, however, it is quite clear that the founding impulses—in public and private institutions—stressed broad public benefits and civic virtues, in addition to the economic gains achievable by individual students.

For example, Harvard University's founding fathers affirmed, in 1636, the need " . . . to advance learning and perpetuate it to posterity; dreading to leave an illiterate ministry." Yale's initiators, in the early 18th century, wrote of instructing youth in the arts and sciences to make them fit for public employment, both in "church and civil state." Thomas Jefferson, in founding the University of Virginia in 1819, expressed the goal of training "America's natural aristocracy" for the responsibilities of national leadership.

In 1862 and 1890, the U.S. Congress passed the Morrill Acts, assigning large tracts of federal land to the states to be used for the creation of public universities "to teach agricultural and mechanical arts not excluding general sciences and classical studies."[2] The Acts emphasized the teaching of trades as well as the application of scholarship to the practical needs of the community. In attempting to resolve the problems of local farmers, for example, the new land grant universities expanded knowledge about agriculture for the benefit of all. They exemplified the ideal of the institution of higher learning as a solver of local problems and a servant of the people. In Wisconsin, during the late 19th century, this philosophy came to be known as a

[2] Compared to most countries, the U.S. federal government's involvement in higher education is quite limited; instead, individual states bear the lion's share of responsibility for colleges and universities. For more on higher education in the United States, please see the chapter in Volume II by Peter Eckel and Jacqueline King.

combination of "soil and seminar,"[3] focusing academic resources on improving the lives of farmers and citizens across the entire state.

Government involvement in American higher education expanded throughout the 20th century as access widened. Highlights included the G.I. Bill in 1944, the National Defense Education Act of 1958, and the Pell Grants (an outgrowth of U.S. President Lyndon Johnson's War on Poverty) starting in 1972.[4]

The work of the Truman Commission on Higher Education resulted in the establishment of a community college system during the 1950s. The Commission's report underscored that the purpose of higher education was to promote "equal opportunity to differing individuals and groups," and to enable citizens to understand their responsibilities as members of a free society. These policies and views coincided with the expansion of higher education in the U.S. The proportion of high school graduates attending college more than tripled from 4% in 1900 to 15% in 1940. Between 1940 and 1970 it tripled again, to 45%, following successful government efforts to create opportunities to open higher education for the economically disadvantaged and for men and women of color. By the end of the 20th century the proportion attending college exceeded 60%.[5]

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[3] The quote is from Charles McCarthy, a Wisconsin graduate and the first reference librarian in the U.S. See Benson, Harkavy, and Hartley (2005).

[4] As discussed later in this chapter, the G.I. Bill, formally the "Servicemen's Readjustment Act of 1944," provided education and training, along with other benefits, for World War II veterans of the U.S. military. The National Defense Education Act provided scholarships and loans focused on improving post-secondary education in math, science, and foreign languages. The Pell Grants (formally known as the "Basic Educational Opportunity Grant Program") are need-based grants and are the principal mechanism by which the U.S. government currently gives financial aid for higher education. For more on these, please see J. Forest & K. Kinser, *Higher education in the United States: An encyclopedia* (Santa Barbara, CA: ABC-CLIO Publishers, 2002).

[5] In recent years, arguments about the public interest in higher education have also been raised in connection with developing countries. See, for example, Birdsall (1996), Task Force on Higher Education and Society (2000), Bloom and Rosovsky (2004), and World Bank (2002). We briefly address this issue near the end of this chapter.

The Perspective of Economists

The father of economics, Adam Smith, highlighted the public benefits of education when he wrote in 1776:

> "The expense of the institutions for education and religious instruction, is ... beneficial to the whole society, and may, therefore, without injustice, be defrayed by the general contribution of the whole society."[6]

But Smith then went on to note that the public might enjoy those benefits as a by-product of the behavior of private individuals seeking to invest in education as a path to their own financial betterment:

> This expense, however, might perhaps with equal propriety, and even with some advantage, be defrayed altogether by those who receive the immediate benefit of the education."[7]

Many years later, Milton and Rose Friedman (1980, pp. 178-80) developed these ideas further. They argued that there is no hard evidence that "higher education yields 'social benefits' over and above the benefits that accrue to the students themselves." Furthermore, they posited that any public benefits associated with higher education would be substantially captured as a by-product of private behavior in pursuit of the higher earnings associated with higher education. They suggested that higher education may even have had, on occasion, negative public benefits insofar as unemployed college graduates could promote "social unrest and political instability." Finally, they argued that public subsidies of higher education did not improve the distribution of economic opportunity and well-being because the benefits were disproportionately enjoyed by those who are well off.

We will address several of these points, presenting evidence that questions some of their conclusions. In particular, our evidence suggests that (a) public intervention increases the number of

[6]Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, V.i.i.5.

[7] Ibid.

individuals who obtain higher education,[8] and (b) that there are beneficial spillovers resulting from the expansion of higher education. Taken together, this evidence supports the position that public subsidies of higher education benefit society at large. Whether the benefits are sufficient to justify the public expense is an economic issue worthy of further examination and ultimately a matter for public policy debate.

Human capital theory represents a somewhat different—though related—line of inquiry concerning the public benefits of higher education. It focuses on estimating the rate of return to investments in education, which involves comparing the immediate costs with the subsequent benefits of schooling. The *private* rate of return reflects the direct costs to individuals of their schooling (i.e., out-of-pocket costs of education plus earnings foregone while in school), and the increases in earnings that can be attributed to having received education. By contrast, the *social* rate of return compares the full cost to society of more schooling, including public subsidies, with the benefits to the entire society of having a better educated populace.

As a practical matter, rates of return on investments in education are calculated in ways that are not entirely faithful to the concepts at hand. One method follows the work of Becker, Mincer, and others and involves the use of regression analysis to relate individuals' wages to their productivity-related characteristics (e.g., years of schooling and years of labor market experience) in a manner that aims to generate an estimate of the economic return on investments in schooling (analogous to the return on the purchase of a bond or investment in physical capital). This method measures the benefits of education as the incremental earnings enjoyed by those individuals who receive it (ignoring any other sources of public benefit). However, it takes no account of out-of-pocket educational costs or public subsidies.[9] For

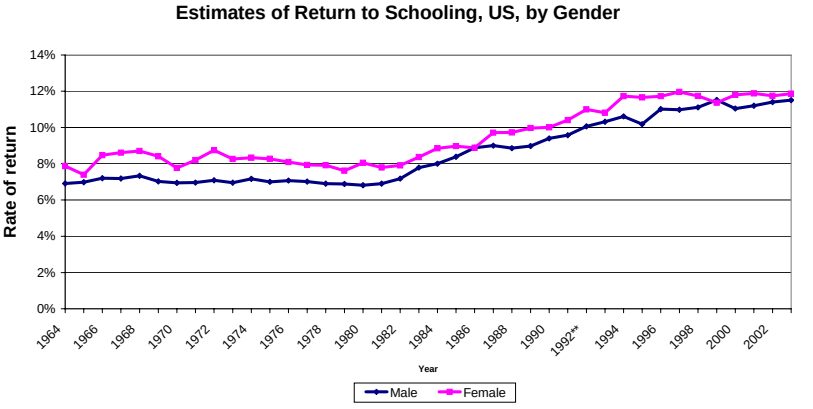
[8] Dynarski (2005) reviews studies on the effect of subsidies on college entry and college completion in the United States. Her own research finds that merit-based subsidies increase both entry and completion rates.

[9] Nor does it distinguish between pre-tax and post-tax income when calculating social vs. private benefits. This distinction is important insofar as taxes are not a constant proportion of income.

these reasons, this method yields neither a pure private nor a pure social rate of return, but rather some ambiguous hybrid of these.[10]

Figure 1 reports estimates of the regression-based rate of return on investment in schooling in the U.S. from 1964 to 2003. The figure shows that the "rate of return" on investments in education has increased over time—from roughly 7% to nearly 12% per year over a 40-year period.[11] During roughly the same period, there was a steady increase in the percentage of full-time U.S. workers with a college degree, from 12% in 1962 to 31% in 2002.

Figure 1



Source: Authors' calculations based on Current Population Survey and Jaeger, David A. 1997. "Reconciling the Old and New Census Bureau Education Questions: Recommendations for Researchers." *Journal of Business & Economic Statistics* 15(3): pp. 300-309.

[10] As the eminent statistician John Tukey remarked in 1962, "Far better an approximate answer to the right question, which is often vague, than an exact answer to the wrong question, which can always be made precise."

[11] In keeping with standard practice in labor economics, rates of return are estimated separately for males and females. Consistent with the literature, the estimated rates tend to be higher for women than men. See Dougherty 2003 for a detailed examination of the sources of this disparity. Also, under the assumption of a perfectly competitive economy, the rate of return on investments in schooling is equal at all levels of education. This implies that the rate of return on higher education is equal to the rate of return on education overall, which is the estimated time-series reported in Figure 1.

A further problem with the human capital model arises in a second widely-used method of estimating the return on investments in schooling. This method uses standard formulas for estimating the rate of return on an investment project.[12] It measures both the social and private benefits of higher education as the incremental earnings enjoyed by those individuals who receive a higher education. Private costs are equal to the value of foregone earning while in school plus out-of-pocket costs; social costs are equal to private costs plus the value of public subsidies. By definition, then, estimates of social returns are lower than private returns.[13] In their research, Psacharopoulos and Patrinos (2002) offered a summary of estimates (see Table 1), which are especially striking because they purport to show that rates of return to higher education tend to fall below those of primary and secondary education.

Table 1
Typical Estimates of Returns to Education,
based on 98 country studies during 1960-1997

	Private	Social
Primary	26.6%	18.9%
Secondary	17.0%	13.1%
Higher	19.0%	10.8%

A Shift in Attitudes

Estimates such as these have weakened the case for investing public resources in higher education. They accord with a common view that a college degree is an investment in securing a higher-paying job, primarily a personal economic benefit. Over the past 30 years, industrial jobs have increasingly been replaced by "knowledge work."

[12] See, for example, Brealey and Meyers (2003).

[13] There are other well-established difficulties with the human capital model as well, the most prominent of which relates to the causal link from education to earnings. For example, those who receive more schooling may be more motivated to begin with, and they are likely to live in circumstances that in any case give them advantages in life; therefore, even without additional schooling, their incomes would likely have been higher than those who did not receive schooling.

Corporations have sought well-educated people for high-skilled (and higher-paid) jobs, and a college education has come to be seen as an essential asset for a successful career. In 1995, James Harvard and John Immerwahr reviewed 30 studies on public perceptions of higher education and found that most Americans see a college education as a requisite for a "good job" (London, 2003). Recent focus groups conducted by the American Council on Education also found that job attainment is the most important benefit that Americans associated with going to college (Institute for Higher Education Policy, 1998, p. 8). The notion that the rewards of a college education are largely economic is mirrored in student attitudes as well. An annual survey of hundreds of thousands of college freshmen for the past 30 years reveals that in 1969, 80% of all incoming freshmen felt that developing a meaningful philosophy of life was an important personal goal. By 1996 that value had dropped to 42%. Between 1971 and 1991, the percentage of students indicating that they were attending college "to be able to make more money" increased from 49.9% to 74.7% (Astin, 1998). Simply put, students view a college education less as a formative experience than as a ticket to getting a good job. This sentiment is also reflected in their choice of majors. By 1997-98, 58% of bachelors' degrees were awarded in occupational fields (Brint, 2002). As Steve Brint notes, "The fastest growing of all [majors] has been business, which now accounts for some one-fifth of all undergraduate degrees—up from one-seventh in 1970-71" (Brint, 2002, p. 233). In addition, the significantly increased popularity of economics as a major may well stem from the widespread perception that that field is good preparation for a job.

Faculty, too, have come to accept career advancement as a primary goal of the academy. In the most recent "American College Teacher" survey (1998-99) conducted by UCLA's Institute for Higher Education, professors indicated that the paramount goal of a college education was helping students "develop the ability to think clearly" (99.4%.) However, the next most widely shared goal (as indicated by 69.9% of the respondents) was "preparing students for employment after college" (Gould, 2003, p. 17).

Support for public subsidies of higher education has also been weakened - certainly in the United States - by the emergence of conservative ideology that decries bureaucratic waste in government

and that hails private actions for private gain. In addition, beginning in the late 1960s, people found more and more reasons to distrust institutions of higher education - that is, they think they are operating not to serve the public but to feather the nest of faculty and administrators - and that there is no desire to be more efficient and, for example, to reduce tuitions.

These shifts have left policies that favor strong public support for higher education in a weaker and more vulnerable condition.[14] The case for public funding of higher education has also been undermined by increasing population mobility across states. Such mobility means that the public benefits of state expenditures in higher education do not accrue wholly to the citizens of that state. Higher education in the U.S. has also become more vulnerable to being crowded out by other demands on public funds, such as Medicaid mandates.

Declining Support from the Government

In relative terms, state support of higher education in the U.S. has dropped significantly in recent years. Although total spending on higher education increased 37% from 1995 to 2001 and even outpaced inflation in each of those years, the share of expenses of higher education institutions paid for by the states has declined, falling from 45% to 32% between 1980 and 2003 (Ruppert, 2001, p. xii). Many states now cover less than a third of the cost of public higher education (Altbach, 2002), with half of all states actually reducing their appropriations in recent years.[15]

Figure 2 shows the gradual decline in state support as a share of total expenses over the past two decades:

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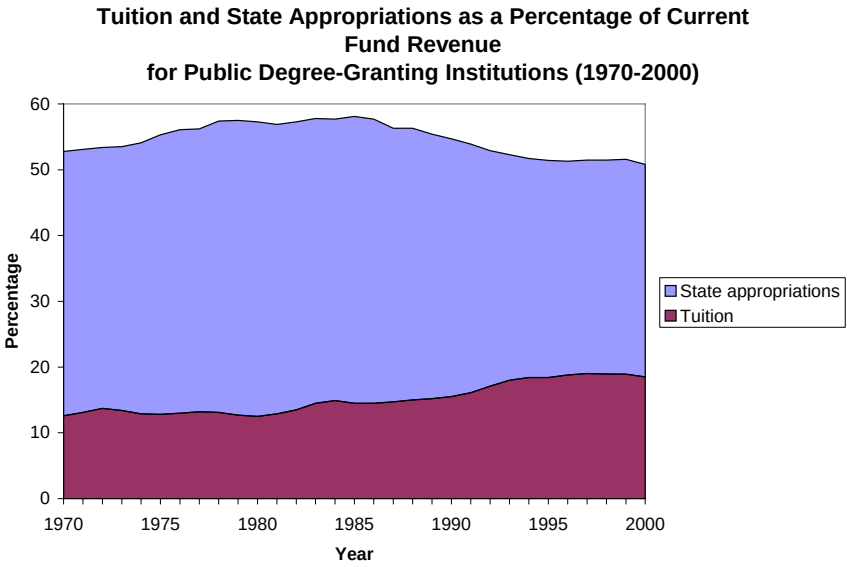
[14] For example, John V. Lombardi, chancellor of the University of Massachusetts at Amherst has remarked, "There is a nationwide crisis in that the public no longer believes that higher education is essentially a public good funded from the tax base for everyone." (Rothstein, 2003) David Frohnmayer, University of Oregon President, observes a "tragic and unnecessary and unfortunate change of view that higher education is seen not as a public good but as a private good" (Bolt, 2003).

[15] A few states have made much larger cuts. In 2003, Colorado reduced its higher education budget by more than a quarter (26%) and Oklahoma, South Carolina, and Wisconsin reduced their allocations by 10% (Potter, 2003).

Figure 2



Source: Authors' elaboration from United States Department of Education 2002.

It is therefore not surprising that some public institutions have begun exploring the idea of privatizing public higher education. For example, Governor Mitt Romney proposed privatizing three campuses of the University of Massachusetts system. The University of Virginia's business and law schools have requested fewer resources from the system in return for greater autonomy (Selingo, 2003). In 2003, in the wake of 23% cuts in state allocations, Katherine C. Lyall, president of the University of Wisconsin system, proposed that the system secure autonomy while remaining accountable to the state by reporting to a new independent authority.

A similar situation has occurred with federal funding, which has seen an increasing emphasis on loans over grants. A national study on the affordability of higher education noted that "In 1981, loans accounted for 45% and grants for 52% of federal student financial aid. In 2000, loans represented 58% of federal student financial aid, and grants represented 41%" (National Center for Public Policy and Higher Education, 2002, p. 7). Pell grants, which are currently the largest need-based financial aid program, covered 98% of tuition at

public four-year colleges in 1986. By 2002, this figure had fallen to 57% (*New York Times*, 2002).

The Public Benefits of Higher Education: Theory and Evidence

Public Benefits

In principle, higher education provides an array of public and private benefits. (See Table 2 for one attempt to specify the nature of these benefits.) For example, the increased earnings that result from a college education lead to greater tax revenues and enable increased savings and investment. Skilled workers are likely to be more productive, more creative in their development and use of new technologies, more adaptable and better able to learn new skills, and to have a greater knowledge of global economic and business conditions. Educated people are also less likely to have to claim government financial support. Robert Putnam (1993; 2001) also emphasized that education is a powerful predictor of civic engagement. In the United States, those who have attended college have a 30% higher rate of being interested in politics, attend clubs at a 40% higher rate, and volunteer 45% more often.

For developing countries, too, the benefits of higher education are increasingly recognized. UN Secretary General Kofi Annan stated that, " . . . the university must become a primary tool for Africa's development in the new century. Universities can help develop African expertise; they can enhance the analysis of African problems; strengthen domestic institutions; serve as a model environment for the practice of good governance, conflict resolution and respect for human rights; and enable African academics to play an active part in the global community of scholars." (United Nations Information Service (2000). In the same vein, Mamphela Ramphele, a former managing director of the World Bank and former vice-chancellor of the University of Cape Town, pointed out that, "Higher education and poverty are linked because modern societies can become or remain materially wealthy only if they are managed by a large group of individuals with the right mix of sophisticated technical and organizational expertise. This expertise, and many of the behavioral attributes that go along with it, are most readily acquired and transmitted through modern tertiary education institutions." (Norwegian Agency for Development Cooperation, 2003)

Table 2
The Array of Higher Education Benefits

	Public	Private
Economic	• Increased Tax Revenues • Greater Productivity • Increased Consumption • Increased Workforce Flexibility • Decreased Reliance on Government Financial Support	• Higher Salaries and Benefits • Employment • Higher Savings Levels • Improved Working Conditions • Personal/Professional Mobility
Social	• Reduced Crime Rates • Increased Charitable Giving/ Community Service • Increased Quality of Civic Life • Social Cohesion/ Appreciation of Diversity • Improved Ability to Adapt to and Use Technology	• Improved Health/Life Expectancy • Improved Quality of Life for Offspring • Better Consumer Decision Making • Increased Personal Status • More Hobbies, Leisure Activities

Source: The Institute for Higher Education Policy 1998.

Note: The authors of this table use the term "social" benefits to refer to "non-economic" benefits. By contrast, we define "social benefits" to be the sum of public and private benefits, many components of which are economic.

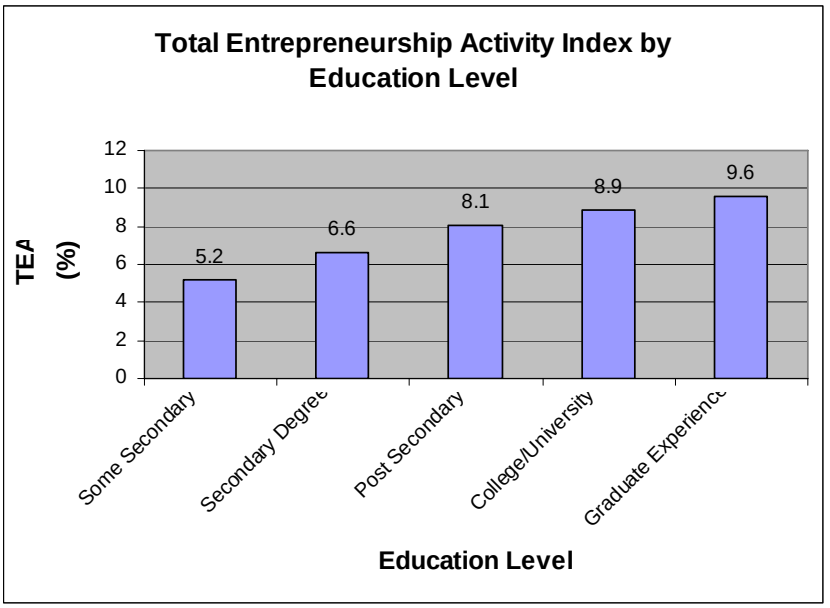
In practice, and as noted by the Friedmans (1980) and many others, rigorous, quantifiable, compelling evidence concerning the public - as opposed to the private - benefits of higher education is very scarce. To begin to address this deficiency, we have studied and conducted a series of empirical analyses related to higher education and income spillovers, entrepreneurship, and good governance. Although these analyses range in degree of sophistication, they are all consistent with the view that higher education does confer benefits on society beyond the gains in earnings enjoyed by the individuals who receive that higher education.

The first analysis (Bloom, Hartley, and Rosovsky, 2004) used data from the U.S. Current Population Survey from 1982, 1992, and 2002 to compare the weekly earnings of full-time workers aged 18-64, employed in states with different shares of college graduates. The comparisons focused on workers who are statistically comparable in terms of their individual productivity-related characteristics: age, sex, race/ethnicity, marital status, educational attainment, industry, occupation, and state. The results revealed that workers earn (statistically) significantly more when they were located in states that have higher proportions of college graduates. Thus, not only do college graduates have relatively higher productivity and earnings, they also appear to enhance the productivity and earnings of those with whom they work. Similar results are reported in Moretti (2004), who used data from the National Longitudinal Survey of Youth to control for unobserved heterogeneity among workers and locations as well. Moretti reports that an increase in the share of college graduates raised the wages of both high school dropouts and high school graduates who had not gone on to higher education.

The second analysis focused on the cross-country correlation between higher education and entrepreneurship. Babson College's Global Entrepreneurship Monitor reports a Total Entrepreneurship Activity (TEA) Index, which measures the share of adults involved in new firms or start-up activities. Results for 17 countries revealed that individuals with higher levels of education had higher levels of entrepreneurial activity. The TEA analysis also revealed that more-educated entrepreneurs created a greater number of jobs than less-educated entrepreneurs (see Figure 3).[16] These associations certainly do not prove a causal link between higher education to entrepreneurship, but they are consistent with that view.

[16] The Total Entrepreneurship Activity (TEA) Index represents the share of adults involved in new firms or start-up activities. See Reynolds, et al. (2003).

Figure 3



The third analysis focused on data contained in the International Country Risk Guide (ICRG). Using data from 130 countries from 1990 and 1995, we examined quantitative assessments of a number of governance-related factors that are believed to affect the investment risk profile of countries. We found that there was a positive and statistically significant correlation between tertiary enrollment rates and each of the following governance indicators: absence of corruption, rule of law, bureaucratic quality, absence of ethnic tensions, low risk of repudiation of contracts by government, and low risk of appropriation. By no means does this prove that there is a causal link from higher education to good governance, but it is--again--consistent with that view.

Is Public Intervention Needed to Capture Public Benefits?

The preliminary evidence that we have assembled supports the hypothesis of public benefits and provides some concrete results. But the important issue of whether these benefits can be captured without public intervention still remains. More specifically, does public intervention via a subsidy or loan program promote the realization of

public benefits through higher enrollment rates than would otherwise be the case?

To address this issue, we examined the impact of the Servicemen's Readjustment Act (the "G.I. Bill") on college attainment. Introduced in 1944, the law allowed millions of U.S. veterans from a broad range of socioeconomic backgrounds to attend college or receive vocational training. The G.I. Bill offered World War II veterans a maximum of 48 months of college tuition and room, board, and book expenses. (Later veterans also took advantage of this measure in slightly modified versions.) The implementation of this legislation was by far the most likely cause of the vast increase in college attendance by men:[17] in 1939 there were 815,000 students; by 1949, there were 1.7 million. Overall, 7.8 million World War II veterans took advantage of this bill, of whom 2.2 million went to college.[18] Ultimately, 10 million veterans took advantage of this law.[19]

The bill was controversial: James B. Conant, at the time president of Harvard University, opposed it because "it didn't distinguish between those who can profit most by advanced education and those who cannot." University of Chicago president Robert Hutchins fretted that "Colleges and university will find themselves converted into educational hobo jungles." The total cost of educating World War II veterans via the G.I. Bill was $14.5 billion between 1944 and 1956 (United States Department of Veterans Affairs)—that is, a little over $1 billion per year—out of an annual federal budget averaging $60 billion (in current dollars) during those years.

Figure 4 represents a snapshot of the male and female populations of the U.S. in 1964. The left bar in each pair shows the proportion of

[17] Researchers have reached varying conclusions on this point. For example, Strom (1950) reports that only 20% of a sample of 2119 student veterans would not have attended college if not for the GI Bill. Similarly, Nam (1964) concludes that much of the great swell in men's college attendance after World War II was due to factors that would have been in place even without the GI Bill. But these conclusions are difficult to accept in light of the male-female comparison in Figure 4 below and the exceedingly careful empirical study by Bound and Turner (2002) that concludes that "war service increased college completion rates by close to 50%."

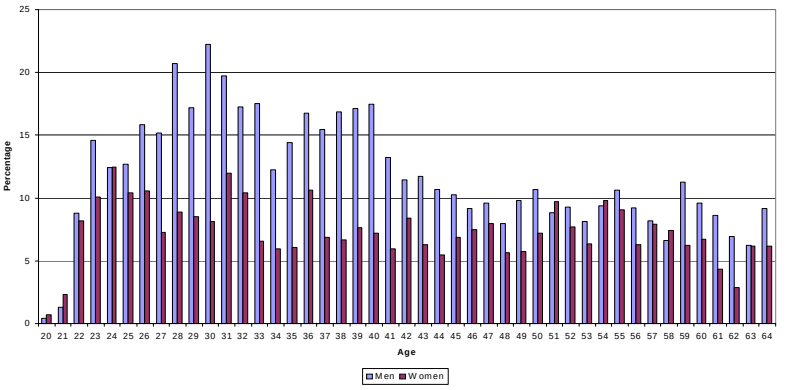
[18] The remainder received vocational or on-the-job training. See Mettler (2002).

[19] This paragraph draws on Simon (2003), among other sources.

men with college degrees by their age in 1964. For example, the bars for age 40 represent men born in 1924, who were 21 years old in 1945, at the end of World War II. Starting from the right side of the chart (i.e., the higher ages), it is notable that the height of the left bar in each pair changes reasonably little from one age to the next (i.e., there is no major trend in college attainment for men who were older than college age right after the war.). But then the bars rise as we move further left, indicating a surge in college attainment for younger cohorts, i.e., men who served in WWII and the Korean War. In other words, they were also the men who would have been eligible for the full college scholarships offered by the G.I. Bill. As one other indication that this rise in college attainment is due to the G.I. Bill, we note that one does not see a similar rise for women, who had far less eligibility for the G.I. Bill because they were not well represented in the military. Thus, it would appear from this chart that the G.I. Bill promoted college attendance. This evidence strongly runs counter to the view that college attainment is non-responsive to government subsidies.

Figure 4

Proportion of men and women with college or higher degrees by age in 1964



Source: Tabulated from the March 1964 *Current Population Survey*.

Taken together with the earlier evidence concerning the public benefits of higher education, these results highlight the potential importance of subsidies as a way to capture those benefits. At a minimum, further research on the enrollment impacts of the G.I. Bill would appear to be warranted. In addition, an analysis of the public costs and benefits of the G.I. Bill would also be in order. Such an analysis could assess the contribution of the G.I. Bill to the stock of human capital (including intergenerational effects, as the children of college graduates are more likely to attend college as well) and macroeconomic performance in the U.S.[20]

The enrollment boost associated with G.I. Bill is consistent with the view that tertiary enrollments are responsive to public intervention. Coupled with the evidence that earnings levels are higher when the density of college graduates is greater, these results suggest that higher education has beneficial spillovers that will not be captured entirely through private behavior.

Public Benefits and Developing Countries

The trends and issues discussed here have a particularly powerful effect on developing countries, especially on those countries that depend on a variety of international funding agencies for support of their educational infrastructure.

While the list of possible public benefits is very similar for developed and developing countries, a list focusing on the latter would place more emphasis on the role of higher education in expanding the possibilities of democracy and also on its role as a source of professionals, civil servants, and individuals capable of dealing with the outside world. Anything that fits under the rubric of "nation building" becomes relatively more important in the developing world.

In rich countries, primary and secondary education is compulsory and only funding for higher education contains a large discretionary element. In poor countries, however, policymakers and donors have more choices to make. All sectors need growth and support, and the

[20] Insofar as many of the subsidized students (those who could otherwise not afford to attend college and who may not have had access to loans) came from poor or minority families, the social equity impacts of the G.I. Bill would also be worth careful examination.

correct principles of resource allocation are still subject to debate: primary vs. secondary vs. tertiary is the contentious policy issue.

Donors, and especially the World Bank, have in the past based their allocations on what we believe are problematic and misleading rate of return calculations. Primary and secondary education has been heavily favored—even in relative terms—at the expense of support for colleges and universities. (See the figures in Table 1.) Recipient countries have not always been pleased with these policies, perhaps because they recognize more clearly than donors the relationship of higher education to nation building. There are hopeful signs of change. The World Bank, which had agreed with the strategy of funding primary and secondary education at the expense of higher education, recently modified its views. In *Constructing Knowledge Societies: New Challenges for Tertiary Education* (World Bank, 2002), the Bank does not recommend that rate of return analysis be used as the allocation mechanism, and suggests that countries take account of the "major external benefits" (p. 20) brought by higher education.

Conclusion

We have tried to show that, in the United States, there has been a shift in emphasis from the public benefits of higher education—the common good—to private gains in the form of more lifetime income. No doubt this represents (in part) an ideological shift, heavily reinforced by the difficulties of rigorously measuring or even defining public benefits.

In making this connection, three points need to be stressed. First, the measurement of private benefits is difficult in practice, and the difficulties are frequently glossed over in published empirical studies. Second, there are data wholly consistent with various hypotheses that assume the presence of significant public benefits. Third, there are also data that indicate the usefulness of subsidies for society to achieve an optimal level of public (and social) benefits.

In many developing countries, the debate about who benefits from higher education has focused more on the relative public benefits of primary and secondary versus higher education. But in addition, the fundamental question of public subsidies for higher education persists and is unresolved. The cross-country evidence discussed briefly in this chapter supports the idea that in developing

countries, too, higher education brings broad public benefits that have been under-recognized in the past. For both developed and developing countries, these are tentative conclusions, but—in many ways—no more tentative than inferences based solely on calculated private returns. Sound policy must take both public and private returns into account.

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ROUND TABLE DISCUSSION I

A Look Into the Future – What Can We Expect?

"A Look Into the Future – What Can We Expect?"

Participants

- **Mordechai Shechter: Moderator**; Tel Hai Academic College – Upper Galilee, Israel
- Joseph Bodenheimer, Jerusalem College of Technology, Israel.
- Shlomo Grossman, Planning & Budgeting Committee, Council for Higher Education, Israel.
- Grant Harman, Centre for Higher Education Management and Policy, University of New England, Australia.
- Alex Keynan, Israel Academy of Sciences and Humanities, Israel
- Moshe Mani, Ashkelon Academic College, Israel
- Gurion Meltzer, Samuel Neaman Institute, Israel
- Uriel Reichman, Interdisciplinary Center, Herzliya, Israel
- Sheldon Rothblatt, Center for Studies in Higher Education, University of California, Berkeley, USA
- Menachem Yaari, Israeli Academy of Sciences, Israel
- Meir Zadok, Israel Academy of Sciences and Humanities, Israel
- Dan Zilberstein, Technion – Israel Institute of Technology, Israel
- Guri Zilkha

Mordechai Shechter

When the Organizing Committee was making its plans for this conference, it was felt that there would be a need for the audience to participate in the discussion in a more active manner than in the question-answer period following the individual lectures. So we set up two general sessions for this purpose, and asked the moderators to structure them and create some kind of theme, which would hopefully be followed by a question and discussion period. Two panelists were asked to comment very briefly on the theme that I am going to present, which resonates with what was previously discussed, and then the audience will have the opportunity to discuss and ask questions from the various speakers.

I am Mordechai Schechter, and am currently the President of Tel Hai Academic College. By the way, while the name "university" is a protected brand name in the Israeli higher education system, "college" is not. We have colleges for cosmetics and colleges for

bartenders. But the term "academic college" is a protected brand name and only those that are accredited by the Council of Higher Education (CHE) to give academic degrees, can be called academic colleges.

As a president on loan from my university, the University of Haifa, one of Israel's seven research universities, where I also served in the past as rector, I am familiar with both the college and the university systems.

Our moderators are Grant Harman, and Menachem Yaari, who is now the President of the Israeli Academy of Sciences, the apex of the Israeli research establishment in its positive sense, and Distinguished Professor of Economics at the Hebrew University, but he was also President of the Open University, which is the other side. It is called "Open University" because it is open to anybody who wants to pursue higher education even if they don't have a high school matriculation degree.

I would like us to dwell upon a term which has been used in the various talks today, "institutional drift." This is a reflection of the transition to mass higher education, and embodies processes that have been repeated in many countries, at least in the western world, if not elsewhere. In this process, as the number of students increases, new institutions are established, usually colleges, which begin by awarding first degrees. These colleges, as some of the speakers mentioned, try to upgrade themselves, either on their own or with assistance from the government, and then they start granting second degrees and eventually even PhDs, and ultimately turning themselves into universities.

Some of these processes are intrinsic or autonomous, and some of them are imports from above, like the United Kingdom system, where many of the Polytechnics one day became universities.

This raises a concern, which was reflected in Zehev Tadmor's talk and Professor Jortner's report, that because of the increase in the number of colleges, and certain decisions made by the Council of Higher Education, like authorizing colleges to grant a Master's degree (a Research Master's Degree with a research thesis), all of Israel's 53 colleges will turn into mediocre or even less than third-class universities, and this concern is real.

Not only that, because of this institutional drift, what could happen is that a good part of the budget, which now goes to the universities, will slowly and gradually be transferred to the colleges. You often hear that the 'wars' of the research universities are partly due to the establishment of the colleges. Because they took a chunk of the budget from the universities, this, it is claimed, explains the serious budgetary situation in which the research universities have found themselves. Whether this is true or not is beside the point. The point is, what do we do about it, and this is what I would like to develop in this session.

We were given two nice examples. One of them is the California scheme, with its three-tier system and an open dialog between them, yet with very well established demarcation lines between the community colleges, state universities and research universities, and relatively free movement of students.

The other one we just heard is a sterling example whereby a very wise system of incentives, rather than a system imposed from above, was used in order to create a multifaceted system of research. The system flourishes through this kind of openness on the one hand, but it is led by a clear vision of policy.

Now, we in Israel can continue to muddle through, and think about establishing a Chinese Wall on the foundations of the Californian system, with a very rigid partition between the various tiers of the higher education system, and say that this is what colleges can do, and this is what universities do, and we should not deviate left or right from this scheme. I don't believe that this will work, because we simply may have missed the train. Just to give you an example, I noted points 3 and 4 in Zehev Tadmor's opening address. One of them talked about an open dialogue between universities and colleges, and the other one referred to "free movement of students," like in the Californian system, between the various tiers. Yet students graduating from a college in Israel with a B.A or B.Sc. degree, which is exactly equivalent by law to one which is granted by a university, often find they are discriminated against when they apply for graduate studies at universities. By the very fact that you come from a college, you have to take additional courses, as opposed to somebody who comes from the university.

This is our nature, and apparently, this is our culture. When I approached my home university, the University of Haifa, after the Council of Higher Education's decision to encourage second degrees offered by colleges in association with universities, and suggested that Tel Hai College and the University of Haifa will jointly offer a graduate degree, I was sneered at. The reason was there was fear that we would compete. How can we compete if we are working together?

So I don't believe that that system will work, although for a long time I believed that it was the right model. On the other hand, I think the Australian system offers a much more benign, open and flexible scheme. It probably fits better with our cultural environment and the way we do things. As we stand here at the cross-roads (and I agree with Zehev, that it is a moment of truth for the Israeli higher education system), the question is, should we decide now, with the encouragement and leadership of our Council of Higher Education and Planning and Budgeting Committee, and before it's too late, which of these two roads (of course adapted to the Israeli cultural and social environment) we should take.

I liked what Nava Ben-Zvi said, that there is not only one form, but many different forms of excellence. I think this is something that we should all remember. Nobody has a monopoly on excellence, and with this open approach, I would like to invite our guest, Grant Harman.

Grant Harman

Expansion of higher education systems produces major stresses and changes, including greater diversity of students and often of courses. New fields of study are developed, or move into higher education from vocational education sectors, upgrading to degree and possibly postgraduate courses. In many cases, these changes result from demands from professional groups, employers and students. Professionals that in the past qualified with college diplomas wish instead to replace diplomas with degrees or postgraduate qualifications.

Higher education systems respond to massification mainly in two different ways. One way is for university sectors to expand and become much more diverse, with greater variety in students, course offerings and approaches. The other alternative chosen by a

large number of countries is to create new sectors, separate from university sectors but performing complimentary functions, including in many cases offering of bachelor's degrees.

Both strategies are problematic and often result in not totally ideal solutions. The development of more comprehensive university systems causes major strains and runs into problems especially with the rigidities of many traditional university systems. There also are issues about what constitutes proper disciplines to be taught in universities, about the relative emphasis on teaching as opposed to research, and about funding formulas to cope with diversity in different institutional missions.

Binary systems, on the other hand, run into problems of a different nature about the status of different types of institutions, their staff, and their courses. There also are problems about relative funding levels, recognition of college degrees, and the ability of students and graduates to move from colleges to universities. Universities inevitably enjoy considerable status advantages compared to colleges, and there are often lively policy debates about defining the precise roles of colleges in relation to universities. There are important questions of what access college students should have to be able to move to universities either during their courses or following graduation. As a result of these tensions and the upward academic drift experienced in most college sectors, binary systems tend to be unstable, unless they have a strong legislative base and there is a broad consensus about the respective roles of each sector.

To my mind, California is a special case in that the Master Plan has enjoyed a strong legislative basis from the start, and there has been a broad consensus that has survived for almost 40 years. Despite the ambitions of many individual State universities and colleges to become full-fledged doctoral granting research universities, and despite a succession of periodic reviews, the three-tiered Californian system has survived with relatively little change since acceptance of the original Master Plan.

But the experience of many other countries with binary experiments has been different. In my presentation, I tried to explain about the Australian experience, where a binary system of higher education was created in the mid-1960s but dismantled 20 years later. Dismantling happened quickly and was not widely expected. In fact,

the year before this decision was taken a high-level government committee had recommended that, despite upward academic drift, the binary arrangements should be retained.

We also have heard about the UK experience of creating and abandoning a binary system. While Australia abolished its binary system at the same time as it undertook extensive institutional mergers, in the UK a process was put in place whereby individual polytechnics and other kinds of non-university institutions could achieve university status without combining with any other institution. This process has proceeded for more than a decade with the result that a large number of former non-university institutions have achieved university status.

South Africa is another interesting case. For well over a century, South Africa has had a well-established higher education system made of high quality, traditional universities, established on both British and Dutch university models. Over the last 20 years, however, a new sector of technikons or degree granting colleges has been developed. These closely resemble the academic colleges of Israel. But today, under the leadership of the national government, South Africa is undergoing significant changes with a major program of mergers that includes combining universities and technikons to create new 'hybrid' institutions. What the final result will be is not clear, but one possible outcome is the creation of a new, comprehensive university system including institutions that differ significantly in their commitment to research. The South African mergers have been initiated to deal with problems of fragmentation and non-viable smaller institutions, but also to achieve more balanced ethnic mixes of staff in some of the major institutions. So here is another example of a binary higher education system under considerable stress where a possible outcome may well be return to a single comprehensive university system.

New Zealand presents a different example of binary systems. New Zealand has had a binary system for many years, made up of a university sector with a fairly traditional character, and a non-university sector comprising polytechnics and teachers colleges and other types of colleges. But some of the colleges have been allowed to merge with universities and the largest polytechnic has been allowed to become Auckland University of Technology. But other major

polytechnics have been blocked in their repeated attempts to achieve university status, leading to considerable stress.

A very different case is Ireland, which has had a recent review conducted by an OECD panel. The institutes of technology made a strong case to become universities of technology, but their requests were turned down. So, for the time being at least, the binary system will stay as it is.

It seems to me, then, that binary systems tend to be unstable, especially in times of rapid increases in student enrolments, and as they expand degree and postgraduate enrolments and become increasing like universities. The exception appears to be those systems where there appears to be a strong consensus to maintain a binary character, and where the current arrangements are grounded on master plans and/or legislation.

In times of rapid expansion, college sectors almost inevitably run into major border problems with universities, as they expand in size and range of functions. Often they become much larger than university sectors and consequently demand an increasing proportion of government allocations to higher education. They recruit new Ph.D.s, young people with expectations not only to teach at degree level but who have interests to maintain their research activities. This, combined with the demands of students and communities, creates major problems for binary systems that governments often find great difficulty in knowing how to respond.

Menachem Yaari

I want to zero in on my concerns, or the way I interpret the real problem regarding the recent developments in higher education in Israel. This morning we heard some of the most prominent representatives of higher education in Israel and they seemed very concerned about these developments, maybe even scandalized. While this may seem excessive, I would like to try and shed light on what has recently happened in higher education in Israel and perhaps justify the sense of anxiety that came through this morning in the presentations of my colleagues and friends Zehev Tadmor and Joshua Jortner.

I basically see two major developments which are very disconcerting, that are part and parcel of what has happened in higher

education over the last couple of years. One of them is a constitutional concern and the other one is a structural concern. I would like to take a couple of minutes on each one of them, to spell them out in a way that may explain the sense of concern that came through in the earlier presentations.

The constitutional concern, which I feel very strongly about, is that a division within the Israeli Ministry of Finance, not even the Ministry itself, but the Budget Division, somehow finds itself in a position to introduce reforms in this country. This division of the Ministry introduces reforms in higher education, which is what we have been discussing, but not only. The Budget Division knows how to run Social Security better than anyone else, so they introduce a reform in Social Security, not the Ministry of Welfare or anyone you would think has something to say about this. They know how to run the Health system, so they introduce a reform in Israel's health system, not the Ministry of Health. I find this in other fields as well, where a dozen or more reforms have been suggested by them. Not only that, but when you think that, in order to institute such reforms, you need legislature, it is the Knesset that should be doing this. Yet the Budget Division of the Ministry of Finance, which is not even elected, has been given a legislative tool, called "the Law of Arrangements" which empowers it to introduce reforms and legislate them into law.

I find this extremely disconcerting, particularly in the higher education context. Let us assume, for the sake of argument, that the measures they took are excellent, wonderful, and just the right thing for the institutions of higher learning. But what have they done? They have dictated to the institutions of higher education, the universities (to the Weizmann Institute it wasn't necessary and less so to the Technion) their constitutions and by-laws. I think it is unheard of that a division within a ministry should be able to dictate how an institution like the Hebrew University should write its own constitution. If the audience here felt a sense of alarm when my colleagues here spoke, I think this is a good reason to be alarmed.

Now the other element that I am concerned about is the basic misunderstanding of what an academic system is. Here we are witnessing an attempt to impose a hierarchical model on an academic system. Business is based on hierarchy, where someone higher in the hierarchy should be able to extract whatever they need from someone

lower down in the hierarchy; this has been proven effective in business and the military so surely it will be effective in higher education. Well, that is just not the case. Higher education, particularly institutions of higher education, is not hierarchical. The whole system of authority within academia is lateral rather than hierarchical; in other words, the source of my authority is not derived from the position which was endowed upon me by someone higher up in the hierarchy. It is because my colleagues have laterally endowed it to me.

So the whole system, when you talk about higher education and research, is by nature not hierarchical but lateral, and I think that is a point that much of the system in Israel misses. As long as they don't come to terms with this very basic structural fact, we are going to see a divergence of interests between those who are responsible for higher education and the State, who is paying for it

Gurion Melzer

After hearing all the lectures this morning, not all of which I agree with, I suggest we change the emphasis from what we can expect, because "expect" is a very passive state, to what can we do, which is more positive stance. This was done by Prof. Keynan who proposed a certain structure for the Council of University Presidents. I don't know if it is good or bad because I am not part of a university, but I think the decision should be taken whether to implement it, and if to implement it, this should be done soon.

Uriel Reichman

I would like to take issue with Prof. Tadmor and Prof. Jortner. I don't think they see clearly the developments and major changes that have happened in our society. Their proposition was straightforward enough. The research universities need more resources, and if we recognize the colleges as universities, those resources would not be available for the universities. This is basically their thesis.

Insofar as resources, we have to understand that all over the world, resources for higher education are drying out. Insofar as the Israeli GDP, Israel is perhaps one of the top places in the world in allocating money for higher education. When compared to the resources invested in high schools and elementary education vis-à-vis

higher education, again we see a disparity in Israel, more than in other places. Economically, we are in a difficult situation and therefore it is expected that less resources will be available. But this is happening all over the world. In Australia we heard that government funding was reduced to less than 15%, and in the USA the state university funding by 30-35% at best, and so it goes.

So as Gurion Melzer said, and I agree, the question we should ask ourselves is "what should we do on our own initiative in order to raise sufficient funds to move forward?" There are many ways that can be approached, as we heard from the example in Australia and in other places.

In any case, creating an artificial distinction between colleges and universities is an ill-taken approach. It was said, I believe, by Prof. Tadmor, that we should support research universities and not research institutions. Yet we have the wonderful example of the Weizmann Institute, which is mainly a research institute where the education is secondary, and the enormous accomplishments that are derived from its support.

If we want to support research, funding should be given on a competitive basis and directly to the point, and not to the university, where it will end up in various places other than the chosen destination. Research money should be competitive, regardless of the name of the institute that hosts it.

I would like to mention that not all the so-called "research universities" are at the same level; some of them have weaker departments and some of them are wonderful, as we know. To lump them together is a mistake, just as it is to lump all the colleges together. In certain areas, not necessarily in the life-sciences, engineering and so on, but in the social sciences, the colleges sometimes have a much higher level of research than the universities. The reason for this is very simple; most of the leading professors at the colleges left the universities for various reasons, which I have no time to dwell on, and the very fact that they are working for a college does not change their ability to conduct research.

Most of the so-called "research university professors" are not familiar with what is happening in many of the colleges and the very high level of faculties they have. So I would say, insofar as education is concerned, we should differentiate between research and education.

I already spoke about how research should be funded, while education should be supported through a higher education basket granted to every young Israeli who wants to gain a higher education. Furthermore, student loans should be available and every university should have the freedom to act independently, determine its tuition, and compete in the market.

Let me just finish with the following remark. The world is changing. We are in a competitive market. Competition is also good for higher education, and it is wrong to rely on what was happening in the past without looking to the future. We are facing a very competitive market in higher education, and it should be based on equal opportunity and equal footing to everybody to compete. The so-called "research universities" have a wonderful advantage and they can do very well in a competitive market, but just to sit and wait for government creates the very subordination that we all want to get out of. So let's decrease the power of government by taking our future into our own hands, and compete in the market – then there will be less complaints about the encroachment of politicians.

Guri Zilkha

A comment and a question: During the early 1990's, I was deeply involved in expanding the higher education system in response to the influx of immigrants and the growing number of students coming from the secondary schools in Israel, and I believe that this expansion could have not taken place without a diversification of the system. We have seen that, in many other countries that were represented here, diversity is the key issue – diversity without boundaries, yet without compromising on quality.

One of the sectors that was missing in the presentations given here was the private sector – not only the non-profit private sector, but rather the private sector for profit. This sector is not well represented in Israel, yet it is very vibrant in some countries like the United States; as far as I recall there are about 400 higher education institutions for profit in the United States, some in distant learning, some, universities, etc. Ten years ago there were only several dozen of them, so it can be concluded that this is a sector that promotes diversity and expansion. Perhaps this could be a direction to address the problems we are facing.

My question to our Australian colleague, Prof. Harman is: When the amalgamation took place in Australia in the beginning of the 90s, which reduced the number of institutions of higher education from over 60 to 37 or 36, why did the government in Canberra take over without any buffer, like the HEFCE in the UK?

Grant Harman
That is a good question. I think the reason was that the Minister at the time wasn't convinced that the "Commonwealth Tertiary Education Commission," which was responsible for the coordination of universities, colleges of advanced education and technical and further education, was sufficiently responsive to the needs of the society and to government policy. At the time, the Hawke Labor Government was somewhat disenchanted with the performance of various statutory bodies and so there was a general trend to bring the management of particular sectors back into ministries. And so Minister Dawkins created a new division with the new super- Ministry of Employment, Education and Training, with new officials who were sympathetic to his way of thinking. Understandably at the time there was a certain amount of opposition from people in universities, but curiously, after a few months opposition died down and to a large extent to has been little debate since then about whether there should be a HEFCE type of agency to coordinate higher education. There seems to be a general feeling in the university sector that the current arrangement seems to work well.

Yaakov Iram
I assume that all of us will agree with the great diagnosis made this morning by Prof. Tadmor that the higher education system in Israel is indeed at a moment of truth, and with Prof. Jortner's follow-up that there are grave signals indicating a potential existential crisis for the system. I would also agree that, if we do not ask ourselves what can be done but merely what we can expect, then we can expect more of the same and even worse. The situation will deteriorate if we don't initiate a keen dialog between all the different sectors within the Israeli high education system.

A keen dialogue does not mean the type that we were engaged in during the past decade, where the universities - naturally and maybe

rightfully - conducted a paternalistic dialogue with the colleges. All of us know that the universities have contributed greatly to the flourishing of the colleges. Most of the universities in Israel have openly encouraged and supported them, but, while 'paternalistic' may not be the right term, they were not always on an equal footing. In dialogue I am referring to the universities, the colleges and the "for profit" or "private colleges," because these three sectors are actually in the same area and compete for the same funds, for the same student population and so on.

Regarding this type of dialogue, of the three major examples we have heard, namely the Californian Master Plan, the British experience and the Australian one, unfortunately, none can set a pure example for the Israeli educational system. All of us who are engaged in any type of comparative study know that you cannot adopt a system, because every system is embedded in its historical, economical, sociological, cultural, and religious circumstances, and so on and so forth. We cannot adopt any one of these three systems, but we can adopt elements from all three in order to improve the Israeli higher education, and to cope with the current crisis. Ultimately, we will have to redefine, willingly or unwillingly, some of the basic missions that we thought of as the major missions of the university.

Mordechai Shechter
Yaacov, do you think really that one can mix together the Californian Master Plan and the Australian approach? Wouldn't that result in "half coffee and half tea?"

Yaacov Iram
No, one cannot mix them together. What I suggested is that we can adopt distinct elements from the Master Plan, and from the British, Australian and Italian experiences, although I am not too familiar with the latter. Fortunately or unfortunately, the California system is embedded in California. Sheldon, will you tell us if the California Master Plan was adopted in any other states in the US? If it is so successful, why didn't Illinois or Pennsylvania adopt it?

Sheldon Rothblatt
Well, one reason you might not want to adopt it is that it is not granted in the Californian constitution, but is a statutory law, which means it can be changed, and for 40 years it has been under attack. It is pretty vulnerable, but we can go into that another day. The various states have different systems and they come out of different traditions. California was the first state after the war to really conceive of all higher education institutions as comprising a system of interrelated and in some respects mutually dependent campuses, to include the private sector in that as well. Other states came along with master plans later and there are variations of that theme, but some state governments are as intrusive in the daily affairs of the universities as anywhere else in the world, Wisconsin for example.

Before we proceed there is one other point I would like to make: what is in the California Constitution is that the University of California is named as virtually a fourth branch of the government. This has given it the kind of protection that Grant has mentioned, but it has not made it impervious to political attack.

Yaacov Iram
I would like one more sentence: it looks like, for those who are outside the quarrel, an important to clarify the term '*university*'. It is a major issue, should colleges be called *multi-campus universities* or *regional universities* and so on. I think we have, maybe it will sound naïve, I think the right term in Hebrew is מכללה, כולל which means that it includes everything around.

Mordechai Shechter
We have the benefit here of the present Chairman of the Planning and Budgeting Committee and a former Chairman, Prof. Haim Harari. Would you mind, Haim, to say a few words on this topic? It would be interesting since you were involved in the beginning of the expansion of the system.

Haim Harari
I prefer to say it tomorrow morning when I am delivering a short talk.

Mordechai Shechter
Some people won't be here, so give us a preview

Haim Harari
I cannot give a preview, I can give a promo. Basically what I would say in connection with the discussion today is that I have hardly heard any discussion of resources which conserve the university system, other than government support. Tuition was mentioned here and there. What about the income from intellectual property, which, in my opinion, is an enormous future source of revenue for universities and anyone who is conducting research in science engineering, or medicine? The whole area of philanthropy has changed dramatically in the last two decades in all countries in which philanthropy plays a very important role, which means almost everywhere (except in Europe). This is allowing for the creation of a diversity of academic institutions based on a diversity of sources of income.

In other words, governments have to be more or less egalitarian. Governments cannot discriminate in a very big way between different institutions of higher learning, because a student is a student and every student is a citizen. Governments can discriminate between places which do first-class research and places which do not do research on the basis of individual research evaluation. But there are many other factors that allow one institution to excel over another and we should also pay attention to them. Only by somehow integrating all of these aspects and all of these factors, can we create a system which really ranges from the very best to, let us say it brutally, the very worst; anyone who thinks there can be a system in which all universities and institutions of higher learning are excellent, of course is totally mistaken.

If everyone is at the same level, then everyone is mediocre. There is no other way. The average is the average, and the big difference between the European and the American systems is that America has the best universities in the world but also the worst universities in the world, and Europe has a huge number of universities, almost none of which is excellent and almost none of which is terrible.

I think we have to decide which direction to take and I would vote for the American way because otherwise we cannot have the

excellence. The price you have to pay for this is that some institutions of higher learning will be second-rate, but let us not pretend that all can be excellent, because this is not so.

Shlomo Grossman

I would like to comment on a few things and I will start with a remark that was made by Menachem and by my friends Joshua and Zehev concerning the interference of the government in higher education institutions. We cannot change history. As Zehev pointed out, the Maltz Report sat on the table of the universities for many years, as well as at the Council of Higher Education, before the government made, what I believe was an erroneous, decision with the "Law of Arrangements." The Council of Higher Education and the Planning and Budgeting Committee rejected the government decision, and the Council appointed a committee composed of some of its own members, rectors of universities and other representatives of universities. We discussed the subject with senate members, presidents, and rectors, and finally came up with the structure, which more or less resembles the Maltz Report, which was accepted by the universities. Certainly there was interference by the government, but it was controlled by the Council of Higher Education and the Planning and Budgeting Committee.

I think that, when we faced the alternative, which was very undesirable because there was no agreement with the government, (and we knew that few universities really have a very significant deficit in their budget), we made the right decision and saved the higher education system in general.

Returning to our previous discussion, I think we cannot deny that we have two sectors operating in Israel, the universities and the non-university institutions. I am not referring now to the private institutions but to the budgeted institutions. And we have limited sources. When I say "we," I mean the Planning and Budgeting Committee. So we have to see how we can really proceed with these two sectors, trying to excel both in teaching and research.

No doubt the universities have infrastructure for research, while the colleges mainly don't. Prof. Reichman is right that some professors who joined colleges have a very strong background in research. Yet they don't have the infrastructure in the colleges for running their

research. The Planning and Budgeting Committee does not have any extra money to support or establish new research infrastructures. So we have to see what we have.

We have the universities, and Prof. Harari is right in that we have good researchers in the universities and some who are not so good. We are doing our best to allocate the money for research based on competition, referring to publications and their impact factors, funds that the universities can get from abroad, and post-doctoral students who are involved in research. In this way we are doing our best to define what excellence in research is, and to divide the money appropriately. As I said, we have now established a Quality Assurance Unit, which will evaluate both research and teaching. In the colleges, we are funding the teaching, but we cannot fund research; we simply don't have the resources for it.

However, there is the Israeli Science Foundation (ISF), funded by the Planning and Budgeting Committee, which is open to all researchers in Israel. We know that scientists from colleges are receiving funding through the ISF for their research if they have the infrastructure to support it. In my view, we have to continue supporting these two sectors and, as was said before, there should be a dialogue between them. The Planning and Budgeting Committee and the Council of Higher Education can provide an umbrella under which this dialogue can take place. This is the situation as it stands now, and I believe it will remain like this at least until the end of the multi-year agreement with the government. As I said before in my presentation, we should look for other sources for funding higher education in Israel.

Dan Zilberstein

I would like to make two comments on Prof. Reichman's statement. First, basic research cannot be 'open to the market', because that way it will quickly become applied research. This is why, in most Western countries, basic research is funded by national or international foundations and not money-systems like the market system. Therefore we should keep asking our government to support basic research so that it will remain basic research. Second, even though the Weizmann Institute is called a "research institute," most of the research there is done by students; therefore it is a university of graduate students.

Alex Keynan
I would like to ask our Australian friend: I understand that the Australian experience is not a very long one, but could you say a few words about the effect the restructuring of the university system had on the research output, or the ability of Australia to compete in research with other countries?

Grant Harman
This question raises an important issue about the impact of a comprehensive university system on research-intensive universities and on research output. Initially there were some difficulties for the major research universities in that the Commonwealth Government decided to allocate competitively about 5% of the total operating grant to support research infrastructure; looking back, it is clear that this was not sufficient. In the UK, the Higher Education Funding Council of England allocates competitively about 20% of total operating grant funds to support research infrastructure, based on research performance as measured by the RAE. However, weakness in the Australian funding formula has been corrected with increasing sums being allocated competitively. The result is that the major research intensive universities have done extremely well with substantial increases in research funding and outputs. The 'Group of Eight' leading research universities attract about 3/4 of total research funds. In my view, the main lesson is that in comprehensive university systems the interests of research-intensive universities can be protected with appropriate competitive research funding allocations. Looking back, there were some initial difficulties regarding funding formulas, but in the end, the research-intensive universities have done very well indeed.

Meir Zadok
I am from the Academy, and I guess since 1972 I have been involved in the Planning and Budgeting Committee and later the Academy. I asked myself, what is the added value of having conferences of this nature, and our guests should know. One thing is certain that at least it is bringing the Israelis together to talk to each other. We have here, in what is, by the way, a rare assembly, people from the Treasury, the Planning and Budgeting Committee, the Academy, universities and so

on, and I guess it is one of the first times after the Planning and Budgeting Committee developed long term planning that there has been open discussion associated with the plan.

One thing has bothered me all along and I think it is the headline "Transition to Mass Higher Education," since we are trying to refrain from being mass higher education here. We are dealing all the time with structures, institutions and so on, but I think we are seeing only part of the picture. In order to understand for example what went wrong in the British system, the research has always been hidden someway or another, how the research is being funded and again quantities of money on competitive basis that goes to universities. This is kind of black hole we don't exactly, this is not coming as part of the discussion and I think it's also creates some kind of misunderstanding about the British system for example, and we had here Leslie Wagner presenting it, and when we followed, Israel followed the British system, at that time, and still it's true again, 2/3 of the budgets to Universities is coming from HEFCE or previously the Planning and the Grants Committee, 1/3 is coming from Research Councils, 1/3 of the budget competitive we don't have.

I think that we established the Israel Science Foundation too late in the evolution of the higher education system. Comparatively speaking, $1.5 billion goes to higher education from total sources, while competitive money for the Israel Science Foundation, which is open to all, is about $90 million, and this was decided upon by, among others, the universities. There was no decision or master plan coming from the government with incentives to try and change this process. Again, it was something which the universities, the Planning and Budgeting Committee and the Academic staff decided to do themselves from their own resources.

Although we are getting some increase, but it is a marginal increase, the major change, again comparative to other systems and what worries is of course how do you maintain research, how do you maintain excellence when you have an increase of students who want to come to universities and maintain excellence. I don't think it is just a structural question but how much money, who allocates it mainly and to what extent it is competitive or not structural changes where there are universities colleges are really important. There is always a tendency and we see it here, governments go to uniformity and

egalitarian and it works against the research universities as they exist and it is hard for a researcher to ask for more money on egalitarian basis, but part of the whole thing that we are talking about something that it is not, so-to-speak, democratic or egalitarian.

I think maybe the next day, tomorrow, we have to try and see where the research part, how it works, how do we create differentiation in spite of structural changes, and a good example is Israel and Sweden, were two exceptions in the diagram that Prof. Jortner presented, Israel I think is stable so far and there were many-many reforms and we will hear about it I guess from Thorsten tomorrow, but still Sweden is performing very well, so what makes changes and why we are concerned. I think this is a puzzled question. Thank you.

Joseph Bodenheimer

I would like to point out that you can't have excellence without diversity. When you have excellence you have to be able to judge it, and I think one of the powerful tools that Academia has is a system of judging excellence, whether it is by referees, by the Israel Science Foundation or by other methods, and I think that the same is true for institutions and departments within the institutions. I think that the Council of Higher Education and the Planning and Budgeting Committee's suggestion to divide the whole academic system into a binary one with only two steps: one, the universities and the other, institutions other than universities, is artificial and will not work in favor of excellence. I know for a fact that there are certain college departments that are at a higher standard than the same departments at universities. I would even go so far as to say that there are some colleges where research is being done on a higher level than certain departments at universities, but they are not funded in the same way.

I think that the Planning and Budgeting Committee should not make its job too easy, but should really evaluate the quality in each institution, and funding should be awarded accordingly.

Moshe Mani

For me, personally, this whole affair brings up a sense of "déjà vu." I remember in the 80s, when I was President of Tel Aviv University and Haim Harari was chairman of the Planning and Budgeting

Committee, we ran into similar, but not identical troubles. I think it can be safely said that Israeli higher education is severely under-budgeted, and therefore all the people who are vying for part of that budget must argue their case. No one can suspect me of having been anti-college at that time and pro-college now. I supported during my administration the Tel-Aviv-Jaffa College in its first steps, and later the Holon Technical College.

I think that everyone would agree, even Zehev and Joshua, that if colleges did not exist, they would have to be invented at the present time. I believe that the colleges are doing their best in order to fill the gap that the budget restraints are dictating to the universities and I think that there is no real conflict between universities and colleges and vice-versa. We do not compliment each other but we complement each other, and we should never forget it. I believe that, together, we could orchestrate a higher education that is better than it is now.

Insofar as research is concerned, I think that the subject has been unnecessarily belabored since research in the universities will always done - it is part and parcel of university life - and for those colleges which foster research within their boundaries, so much the better. I do not think that research is something that should be allowed only in the universities, and it is quite understandable that the Planning and Budgeting Committee cannot afford to finance research in the colleges. Even speaking as Chairman of the Council of University and College Presidents, I accept this situation for the time being.

SESSION III

Government-Academia-Society Relations in an Expanding System

THE CALIFORNIA SYSTEM: GOVERNING AND MANAGEMENT PRINCIPLES*

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I deeply regret that untoward circumstances prevent me from being with you in person as had been my fervent but now unavailing hope. Perhaps this paper will help you comprehend the intricacies of governing and managing the University of California within the structure of public and private higher education in California and the political, fiscal, educational, and cultural norms of contemporary California.

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The California Master Plan for Higher Education

The rapid growth and development of the University of California to the rank of the world's most preeminent, distinguished, and best-balanced public university is one of the most dramatic and telling events in the annals of American higher education, having been founded only 136 years ago.

Until the late 1950s California's public system of higher education was, as to number of campuses and their location, mostly about local community ambitions, regional economic interests, and provincial pride. Almost every session of the legislature witnessed unplanned, nearly random, and highly politicized decisions to locate a new community college here and a new state college there. There was no underlying state policy about such matters or a framework for more

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* Excerpted from David Pierpont Gardner, Earning My Degree: Memoirs of an American University President (Berkeley: University of California Press, 2005).
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reasoned and conceptually coherent decisions. Clark Kerr's appointment as UC's president in 1958 changed all of that.

In 1958, Kerr gathered together California's leading educators to take on the issues of growth in the public and private segments of higher education in California. They studied the expansion of existing campuses, the adding of campuses, the governing structures of the community colleges, the state colleges, and UC and the distribution of students across them, the assignment of institutional missions, admission standards, and related matters.

The result of this effort was to be a treaty of sorts, drawn up by the leaders of the state's public and private colleges and universities, now renowned as the Master Plan for Higher Education. Thus California led the nation in developing a three-tier system of higher education that has been studied worldwide as a model for those states or countries wishing to increase access to higher education while improving its overall quality. With minor changes, the plan has remained in force to this very day. It should be noted, however, that the Master Plan could never have been conceived by the apparatus of state government, much less implemented. It required, not government, but the voluntary collaboration of the leadership of the state's public and private institutions of higher education to accomplish the task. Differences among and between these institutions were resolved by colleagues, not by politicians. The plan, when made acceptable to the higher education community then became acceptable also to the governor and the legislature.

In essence, the Master Plan assigned an academic mission to each of the three parts of California's public higher education system, while encouraging the further growth and development of the state's private colleges and universities. It also defined the pool of students eligible for admission to each segment, and differentiated the expected sources of funding for each, roughly as follows:

- The two-year community colleges were to be open door institutions offering a general education to students wishing to transfer to one of the state's four-year institutions as juniors and providing programs for those interested in technical, vocational, and other skill-related fields. The adult learner was also to have a call on these colleges, which were to be open not only to high school graduates but to anyone eighteen years or older who might

benefit from attending. They were to be essentially cost-free to students and funded from a mix of state and local sources. The system was to be overseen by a board of governors, whose members were to be appointed for six-year terms by the governor with the Senate's concurrence.

- The California state colleges, then part of the state's Department of Public Instruction, were to draw their students from the top one-third rather than from the top one-half of California's high school graduating seniors, not by high school but from the statewide pool of students completing high school in any given year. Thus, the California state colleges became an independent system, known today as the California State University. The colleges were to offer a full range of undergraduate programs leading to the bachelor's degree and a select number of offerings at the master's level in certain professional fields such as education and engineering. Research was to be more applied than basic and tied to the institution's comprehensive teaching function. Funding was to be provided chiefly by the state, and governance was vested in a board of trustees, appointed for six-year terms by the governor with the concurrence of the Senate.
- The University of California's place in the scheme of things was confirmed by reference to the provisions for governance embodied in the state constitution and the derived authority of the regents. The pool of students eligible for admission was modestly reduced from the top 15 percent of California's seniors completing high school each year to 12.5 percent. UC was to offer a comprehensive undergraduate curricula leading to the bachelor's degree, a corresponding array of master's degrees, and doctoral-level work for the Ph.D. in all fields, including the tertiary degrees for the professions. UC was to be the state's primary agency for research and a provider of public service to the society at large, a role also reinforced by UC's being the state's land-grant university. Funding was to come, albeit not in any specified proportions, from the state, the federal government, student fees, and tuition for nonresidents, self-supporting operations, university hospitals and clinics, private gifts and grants, income from endowments, and an array of miscellaneous sources.

The University of California played the critical and leading role in negotiating this plan and, thus, had a special obligation to honor it.

The University of California: Precis and Profile

The University of California was and is one of the world's most complex and sophisticated institutions, the largest and best of its kind, now enrolling some 208,000 students on ten campuses and with an annual operating budget of $14 billion, not including the work done at the three national laboratories managed by UC for the U.S. government (Los Alamos, Lawrence Livermore and Berkeley) at another four billion. UC employs nearly 170,000 persons and manages five major medical centers. It is a formidable enterprise to govern and manage, not only because of its public character but more because of the work it does and of the highly educated and independent people who do it and on whom the university's reputation rests.

The university does not welcome much management and regards the exercise of administrative "leadership" as an oxymoron. Its internal affairs are exquisitely balanced within a well-tested and much commended system of "shared governance," shared, that is, between the administration and the Academic Senate. Each of these bodies possesses authority independent of the other, derived by way of direct delegations of authority from the Board of Regents, the university's ultimate governing body under terms of the state constitution, which provides not only for executive, legislative, and judicial branches of government, but also for a fourth: the University of California.

The university's founders vested in the Board of Regents the unqualified authority to govern the new university and fixed on the board a constitutional mandate to keep the university free of sectarian and political influence in its internal affairs. They were equally determined to put as much distance as possible between the university's constitutional autonomy and the legislature's judgment about the university's operations, programs, policies, teaching, research, and public service.

In other words, the university was to be insulated from the swirling winds of partisan politics that, for the most part, so define the actions of legislatures. These constitutional provisions have been mostly honored over the years, both by the regents and the legislature

and, while differences between the two have not infrequently been litigated, the founders' purposes adhere. This single protection and provision for UC's autonomy is shared with only a handful of other American universities, and in the instance of UC, is the *first* reason accounting for its rise to eminence, especially within such a brief period of time.

The *second* was the regents' decision in 1920 to delegate direct and full authority to the Academic Senate over courses of instruction and curricular requirements, and for the setting of UC's academic standards for student admissions, subject to regental concurrence. In addition, the Academic Senate has been delegated a major but not a final role in academic personnel decisions, working collaboratively with the academic departments, schools, and colleges and with UC's senior academic officers. The discretion of these senior academic officers may in the end be absolute, but is exercised with great, nearly unexceptional, deference to faculty judgment in the proposed appointments, promotions, demotions, and terminations of individual faculty members. The Academic Senate was also given the right to organize itself and its committees as it sees fit and to elect its officers and committees as it collectively chooses without interference from either the university's administrative officers or the regents.

It is the fact of a strong Academic Senate and a strong administration, working with separately delegated authority within UC's labyrinth of overlapping but distinguishable processes and policies, that explains the *second* reason for the university's strength, resilience and quality.

The *third* reason lies in the Board of Regents willingness to delegate nearly all of its constitutional authority to the president, and the president, in turn, at least since 1958, to the chancellors of UC's ten campuses.

The role of the president of the University of California is pivotal to the sustainability of UC as a single institution, the effective functioning of the university's Board of Regents and of the Academic Council, the securing and allocation of UC's resources, the appointment of its key officers, the coherent exercise of its executive powers, the preservation of its constitutional autonomy, and the discharge of its ceremonial and symbolic obligations both domestically and internationally. The president holds the single position within the university that is accountable for the totality of its

endeavors, the chancellors and vice presidents being responsible for a single campus or specialized function respectively.

The president is the one who promulgates universitywide policies consistent with delegated authority or formulates and recommends to the Board of Regents the enactment of new policies or the revisions to or rescissions of ones already in place. Under the university's administrative structure and system of shared governance with the Academic Senate, the president is both the university's chief executive officer and its chief academic officer but exercises the former function in full and the latter only rarely, given the authority of the Academic Senate and the need for the university's faculty to make professional judgments in matters more properly within their purview than within the administration's orbit of responsibilities.

The chancellors, in essence the chief operating officers for their respective campuses, report directly to the president and are appointed by the regents on the recommendation of the president, command both visibility and regard within their campus community and in the city or community hosting it; they have access to an extended family of interested parties and constituents such as alumni, donors, local legislators, the professional and business interests within the service and commercial radius of the campus, and, of course, the students studying on their respective campuses and their parents. The university's principal constituents tend to identify with a campus—where they had been students, or where their children or parents had studied, or whose athletic fortunes they followed—whereas the president, one-step removed from the university's real work, had collective responsibility for all nine campuses.

The university's five vice presidents, while not line officers, were an indispensable part of UC's administrative structure. Their roles, under my general guidance, were to assist the chancellors with their interpretation or administration of universitywide policies, to work with the campuses in the preparation of items for regents' meetings, to advise me on issues within their respective areas of responsibility, to communicate with regents as required and to oversee the operations and the work of their staffs in the areas assigned to them by the university's management structure.

There were five vice presidents: Academic Affairs; Administration and Finance; University Relations and Budget; Agriculture and Natural Resources; and Health Sciences.

I held individual and collective meetings with the vice presidents each week. The one-on-one time I reserved for problems and issues best considered in private, and the collective meetings obliged each vice president to take account of and acknowledge his colleague's work. The meetings also facilitated their work with the chancellors and with their campus counterpart vice-chancellors, not only fostering a high level of formal and informal communication among and between my key officers but also keeping to a minimum the inevitable differences and misunderstandings that form a part of any enterprise so vast, complex, and visible as was and is the University of California.

It cannot be said that UC's administrative officers lack authority. They possess it in abundance, and, tempered by the realities of shared governance on the one hand and a strong, independent Board of Regents on the other, have come to act in a deliberative, consultative, professional and collegial fashion that has steadied the university during times of travail but not hindered its forward momentum when more favorable conditions prevail.

The *fourth* reason is the Board of Regents itself. Twenty-six regents govern the university, eighteen of whom are appointed by the governor with the Senate's concurrence for twelve-year terms (reduced by constitutional amendment in 1974 from sixteen years); seven serve for so long as they hold the office of governor, lieutenant governor, Speaker of the Assembly, superintendent of public instruction, president of the alumni association, vice president of the alumni association, and the president of the university; and a student regent appointed by the board for a one-year term. All twenty-six have the right to vote on any and all issues coming to the board for action. Nonvoting members with the right to sit with the board and to comment but not to vote on all issues under discussion include two faculty representatives (the chair and vice chair of the Academic Senate).

The regents retain the authority to appoint the president, and on recommendation of the president, to appoint the university's vice presidents, chancellors, and directors of the national laboratories managed by UC for the federal government (whose directors report to the president).

The regents also reserve the authority to recommend UC's state-funded operating and capital budgets to the governor, to approve the

functionality of buildings and their design over a certain cost, to accept gifts and contracts and grants over a certain amount (both $5 million when I served), to fix tuition levels for out-of-state students and fees for all students, to close or approve new campuses, schools, and colleges, to adopt resolutions for or against ballot initiatives or propositions of vital interest to UC, to judge the performance of their officers and fix their compensation, to oversee the audit function, and to amend their bylaws and standing orders.

How the regents meet their responsibilities, interact with the president and key administrative officers, organize their work, and make decisions also needs to be understood. I had to allow not only for the ideologies and personalities of each of the twenty-five regents, not counting the president, but for the procedures they followed and the governing precepts they honored. These I had to understand as completely as possible or I would be incapable of commanding either their confidence or the chancellors', vice presidents', or faculty's regard.

The regents, of course, did not live in our world. Most of them lived in a corporate-legal culture, and the university's academic culture sometimes produced impatience, lack of understanding, and therefore unneeded controversy. Moreover, they were political appointees, except for the ex-officio members, but at the same time were expected to safeguard the university's political neutrality even though being beholden, at least in part and early on, to the political forces that led to their serving as regents. Time tended to socialize regents to their duty, however, with the longest serving regents often being the most independent and for that reason the most effective.

Individually and collectively, over more than thirteen decades the regents have been real champions and protectors of the university, dedicated to its welfare, jealous of its autonomy, demurring to presidents and the Academic Senate on most matters, and asserting their constitutional role when needful in encounters with governors and legislatures.

The *fifth* reason has been the steady and diligent commitment to the University of California as a *single* university, operating on its ten campuses: In the corporate sense, it is a single entity governed by a single Board of Regents possessing nearly unqualified constitutionally derived authority, adopting its own bylaws and delegating what authority it chooses through its standing orders. There is one

president, appointed by the regents, to whom sufficient authority is given to exercise UC's central executive authority. There is one Academic Senate operating on each campus but also universitywide as required, whose members (essentially the professoriate and key administrative officers) comprise a unified and comprehensive, not representative, Academic Senate. There is a single, consolidated university budget for the state's share of UC funding, submitted by the regents to the legislature and governor that, when acted on by the governor and legislature, comes to UC as a "block grant," allocated within UC by the president, not by the regents, and according to policies worked out by the university administration. There is a single set of personnel policies, salary schedules, and policies for UC faculty and other academic personnel, universitywide negotiations with the unionized staff, and common fees and charges for students, except for some campus specific programs or facilities. There is a single official university voice speaking for UC in the state capital, under direction of the president, and involving both members of his staff in Sacramento and others from throughout the university and helping to insulate the campuses from direct political interference.

The *sixth* reason pertains to the common university standards for admission at the freshman level (12.5 percent of California's graduating high school seniors eligible for admission to one of UC's campuses), thus assuring UC a student body of exceptional promise and ability.

The *seventh* reason for UC's worldwide standing is its relationship to the people of California. Californians are proud of its accomplishments, appreciative of its role, honored to be a part of its success and/or to have studied on one or more of its campuses. The public on balance and over time has been willing to pay for UC's overall excellence and ambitions, even when furious with its tolerance for protest—in 1964-65 during the Free Speech Movement and from 1965 to 1971 in demonstrations against the Vietnam War—or with its apparent unresponsiveness to public concerns about the nation's security, as in the McCarthy era of the early 1950s.

The *eighth* reason has been UC's steady development of multiple sources of revenue rather than a simple reliance on state funds only for its operating and capital budgets: federal funds for research, public service, and student financial aid; student tuitions and fees for an array of student-focused programs and activities; private support

for scholarships and fellowships, endowed chairs, library and museum collections, intercollegiate athletics, and a range of non-state-funded capital needs; and revenue from self-supporting auxiliary operations.

I now offer a more general comment to close the final part of my remarks. One often reads in the higher education literature that university presidents are powerless, that the faculties are hopelessly resistant to change, that the unions have immobilized the staff, that the students attack whatever the administration does, and that the governing boards afford the president precious little discretion while holding them responsible for virtually everything.

I did not find these pessimistic, if not cynical, assertions to be in the least bit true. Not at Utah and not at California. University presidents not only have very substantial authority but also possess influence and power—though none of which makes much difference if not boldly exercised or fully engaged.

These claims assume that the incumbents are self-starters, willing to act, conscious of the strengths and weaknesses of others (just as they need to be aware of their own), content to internalize their successes and to absorb and learn from their failures, willing to take advice or turn it away, happy to work long hours and able to walk away from the job for the sake of the institution, willing to say no or yes according to one's best judgment, willing to endure a certain isolation and the disgruntled and faultfinders, willing to balance one's personal life with the demands of the job or lose one or the other or both, and deeply committed to the purposes, values, and culture of these rare and remarkable institutions that form so crucial, indeed, so indispensable a part of modern civilization.

This is not to say that things work well all the time, or that mistakes are not made, or that poor choices do not have enduring consequences, or that there are not ample bumps and barriers along the road, or that presidents do not err or fall short of expectations.

Nevertheless, leadership counts in our colleges and universities as it does in other major institutions in our society. These institutions and their leaders should be ahead of the curves of change and not back of them for only in this way can these institutions expect to be drivers of their own future rather than governed by the decisions of others less informed and caring.

The California Master Plan for Higher Education in 1960 is a prime example of such leadership as is UC's own, quite autonomous position within its host state. Leadership, risk-taking, ambition fitted to today's realities, and aspirations suited to the society and culture of which these institutions are such an integral and a crucial part are fitting challenges for the leaders of our universities and those in government and the private sector who wish to help and whose support in the end is indispensable.

FACTS IN BRIEF

	2004	2003[1]	2002[1]	2001[1]
STUDENTS				
Undergraduate fall enrollment	159,486	154,979	148,024	141,366
Graduate fall enrollment	48,905	46,318	43,879	41,989
Total fall enrollment	208,391	201,297	191,903	183,355
University Extension enrollment	338,084	353,843	389,361	444,102
FACULTY AND STAFF[2]	120,786	118,533	114,282	108,827

SUMMARY FINANCIAL INFORMATION (IN THOUSANDS OF DOLLARS)

UNIVERSITY OF CALIFORNIA

PRIMARY REVENUE SOURCES

Student tuition and fees [3]	$1,377,923	$1,096,609	$1,014,124	$993,198
Grants and contracts	3,826,641	3,531,343	3,209,669	2,886,501
Medical centers, educational activities, and auxiliary enterprises	5,454,519	5,096,772	4,606,702	4,227,299
State educational, financing, and capital appropriations	2,972,879	3,247,831	3,438,417	3,258,067
Private gifts	544,853	485,242	358,315	527,026
Capital gifts and grants	319,852	389,852	249,166	465,704
Department of Energy laboratories	4,115,635	4,173,017	3,595,374	3,101,497

FUNCTIONAL EXPENSES				
Instruction	2,873,614	2,752,994	2,604,866	2,554,550
Research	2,791,777	2,623,300	2,418,040	2,207,922
Public service	394,066	426,696	444,923	388,188
Student financial aid [4]	358,048	358,711	317,888	279,663
Medical centers	3,352,536	3,153,768	2,836,611	2,672,448
Academic support	1,053,902	1,046,036	986,728	944,414
Other, including maintenance of plant, depreciation, institutional support, auxiliary enterprises, and student services	3,019,787	2,916,176	2,754,285	2,645,313
Department of Energy laboratories	4,082,089	4,139,681	3,563,157	3,070,379
FINANCIAL POSITION				
Investments, at fair value	11,557,368	11,031,876	10,324,370	10,105,593
Capital assets, at net book value	14,167,202	12,653,546	11,362,053	10,159,463
Outstanding debt, including capital leases	6,912,989	6,354,193	5,492,118	5,171,196
Net assets	17,794,394	16,447,893	15,251,124	14,636,534

1 Reclassified or restated to conform to 2004 presentation.
2 Represents full-time equivalents.
3 Scholarship allowances, including both financial aid and fee waivers that are not paid directly to students, are recorded primarily as a reduction of student tuition and fees in the statement of revenues, expenses, and changes in net assets.
4 Includes only student aid paid directly to students. The state-administered California grant awards are not included as expenses since the government determines grantees. College work study expenses are shown in the programs in which the student worked.

Source: University of California Annual Report 2003-2004.

Zehev Tadmor

Thank you very much for a superb address, so timely and appropriate for us here. In some respects I feel sometimes that we here in Israel are in the pre-Clark Kerr period and I only wish that we could in this country emulate some of the successes that you had in California. So now let's start the question period.

Q: Mordechai Shechter

I just want to repeat what Zehev said now; usually we say that we are 10-15 years behind the US. It seems that in the area of higher education, at least part of it, we are about 50 years behind the US. I want to ask you this: you described the system of the University of California as a very cohesive integrated system but my impression is that the various campuses, take Berkeley, Davis, UCLA, compete for students. How do they compete? Do they compete for funds? Is it all as centralized as you described it? I know they are competing in sports matches, but I'm sure there are other areas and fields of competition among the different campuses, contrary to the, maybe wrong, impression that I've gotten from your presentation.

A:

Thank you very much for those questions and observations. They do indeed compete for students at the undergraduate level, but not too aggressively. Because there is such an overwhelming desire on the part of eligible students to attend the University of California, there is never a problem of filling the entering classes. For example, students in California who wish to apply to a campus of the University of California can apply to more than one of them at once, so a student can apply when coming out of high school to Berkeley, to UCLA, to San Diego, to Davis, to Santa Barbara, whatever. Each campus will consider the application within the context of its existing student body and the nature of the new applicant pool for its campus. Judgments will then be made on whom to admit. Generally speaking, the way it works, and this is an over-generalization, is as follows: the first 40 to 60 percent of the class is admitted on the basis of objective academic criteria-- courses in high school, grade point average in courses required for admission, and test scores. Then the second half, assuming they are eligible, that is within the top one-eighth or 12.5 percent of students then completing high school and seeking to enroll

on one of UC's campuses, additional criteria are considered. Each campus seeks to get a geographic spread from within the state; they want students from every county, they want them from the farms, from the suburbs, from the inner cities; and they want them from all socio-economic groups, and from all races and ethnic groups. Not that any criterion is assigned a particular proportion, but UC wants a representation of students tied to each of these and other criteria. This is so because a class is being admitted, not just individual students; and California is a very diverse place, so the university student body really should be too. There is much debate about how to accomplish these objectives, but less debate about the underlying principle.

So the competition for undergraduates is not a big problem other than procedurally, as I have mentioned. There is competition for graduate students, however, and competition for admission to the professional schools, such as law and medicine; but even then, the demand is so great for the moment that there is no problem in filling the number of positions available.

As to the funding competition within UC, there is enormous competition but mostly internal. The campuses push hard on the president for their particular interests. Every campus, of course, does this. Indeed, the president expects every chancellor to represent his or her campus in aggressive ways. They should be doing that; but once the president decides, they need to be, and they are, all in the same game; and that's how it works.

Q: Yehudit Birk

I am chairing the Committee for Appointment of Professors in the Colleges, Academic Colleges. I would like to ask about the California State Universities. What is the teaching load of the faculty and do they have research facilities?

A:

Yes, thank you. The actual teaching load within the University of California varies tremendously from department to department. For example the teaching load for those in the department of history is higher than the teaching loads say for those in the department of physics, but the amount of sponsored research for the average professor in the department of physics is much higher than for the department of history. There are differences across the university and among and between campuses, and the central administration does

not undertake to fix those ratios in any way. Those are managed by each campus within the context and within the balance of its research and teaching and public service characteristics of that campus, and it varies: the proportion of freshman and sophomores, juniors and seniors, the proportion of undergraduate students and of graduate students, the number of professional schools and so forth. So the profile of each campus is different and, therefore, these ratios vary from campus to campus. We can make some general statements, but there are exceptions to every rule.

The university is funded by the State of California on the basis of a generalized student-faculty ratio. Today it's about 20:1; when I was president, it was about 17.6:1. Obviously, recent times have been tough financially, at least in our terms. Thus, we get so much money from the legislature for every twenty students, and the amount of money is calculated by a formula that's fitted to our mission under the Master Plan.

The formula for the California State University system is different as that system's mission as compared to UC's, and the formula for the community colleges is different again. The state funds, however, do not take account of these differences within UC's campuses. The 20:1 student-faculty ratio drives the funding, the variables for the state's formula being concerned with determining the actual funding UC needs to educate 20 students per faculty member, allowing for personnel and non-personnel costs, and the pro-rata costs of support services, e.g., the library, computer centers, administration, and so forth.

On the other hand, UC allocates the funds, provided to the university by the state in a block grant, very differently by taking account not only of the point you raise, but also of the profile of each campus in terms of teaching and research

Q: **Neal Sherman**

Prof. Gardner, you mentioned that the Master Plan was only ratified by the legislature, but that in fact the key to its success was the agreement among the institutions themselves. I wonder if you could say a few words about maintaining the consensus, what you had to do as president to keep peaceful relations with the other elements of the system and keep the understandings of the Master Plan from eroding.

A:
Well, that is a very good question. I appreciate your asking it because it will provide some further insight into the nature of these dynamics.

The Master Plan is reviewed about every 10 years by the legislature. After this formal review, generally speaking, they have found the Plan to be still workable and no substantive changes have been made, except in 1976 when the terms of UC's regents were reduced from 16 years to 12. Ironically, this change was driven by the Democrats, who 15 years later discovered that because of this change the Republicans controlled the board. I guess the message here is to be careful what you wish for. Otherwise, the legislature has not been able to come up with anything that they think would improve the Master Plan.

Putting the Master Plan aside, however, the legislature not infrequently will want UC to do something that UC doesn't want to do. I'll give you an example of how this works.

I was a young staff person at the University of California, Santa Barbara, during all the student unrest in the late 1960s. Charles Hitch was president. Governor Ronald Reagan was then the governor of California. As governor he attended the regents' meetings, as a regent. The Speaker of the State Assembly, the lower house of the legislature, was also a regent, *ex-officio*. He also attended. These two elected officials, the most powerful in the state, were sitting across from one another: Reagan was a Republican and Speaker Moretti was a Democrat. The university had earlier proposed a budget that Reagan had not been willing to support. He, in turn, had proposed a budget that was woefully inadequate, at least in UC's opinion, and thanks to Moretti, sitting across the table from Reagan, the budget was dramatically improved. So President Hitch, in reporting the outcome of the coming year's budget to the full Board of Regents explained how it all happened with Reagan's budget going down in defeat and Moretti's succeeding.

Governor Reagan was sitting there scowling, and the Speaker Moretti was beaming and very happy to hear Hitch recount these events and giving Moretti credit. Hitch then went on to say, "but there is a rider that is attached to the budget bill which directs the regents to reverse themselves on the decision made earlier that year by the regents to close the School of Criminology at Berkeley." (The legislature had accompanied its appropriation to UC with language

demanding that the regents reinstate the Graduate School of Criminology at Berkeley.) So President Hitch said, "I want to observe that, in addition to the very good budget we received, there was this rider pertaining to the School of Criminology at Berkeley, and, of course, as a regent, the Speaker of the Assembly will know that the rider is patently unconstitutional. It is within the prerogative of the Board of Regents to decide what schools and colleges are to be provided at UC, not the legislature's," and he went on to say, "I have no intention of raising this issue again with the regents, nor does the board have any intention of reconsidering the issue." At that point, Moretti was scowling and Reagan was beaming.

That's how we try to do it and the best way I can describe it.

Q: Zehev Tadmor

Thank you. Just to follow up on that question: it was fascinating that the Master Plan really came out bottom up, it was built up by an agreement, as you said, between the universities and colleges. How did that exactly develop? What were the dynamics of that process?

A:

Well, the way it was handled in California in 1960, really in 1958-59 and then enacted by the legislature in 1960, involved Clark Kerr, then president of UC, as the driving force back of the task force that prepared the plan for the legislature. The task force was chaired by Arthur Coons, then president of Occidental College in Southern California, which is a private liberal arts college. This task force group worked for about 18 months. It dealt with issues of mission, eligibility for admission to the respective three public systems, funding formulae, and related matters. Those were the big issues. The result was the California Master Plan for Higher Education, a treaty of sorts among the public institutions and between the publics and the privates. Once the plan was agreed to, there were no credible opponents. This made it easy for the legislature to approve and for the governor to sign the Master Plan.

Periodically there is a run on the plan by the California State University system, hoping to get authority to grant doctoral degrees (reserved to UC by the Master Plan) but it has not proven to be an issue that either UC or the legislature welcomed.

Finally, I would say that the arrangement was worked out principally through the good will of the interested parties and the

skill of Clark Kerr, who was a nationally-known and highly respected labor arbitrator.

Q: Uriel Reichman
I am the president of the first private university in Israel, and I wanted to ask you what is the role, or what is the relationship between the public and private institutions and whether the state is supporting private universities?
A:
Thank you. This was a point of some stress at the time of the Master Plan, but really less of a problem today than it was then. The problem when it was first enacted was a fear on the part of the private universities that the University of California, would become increasingly interested in seeking funds from the private sector and, thus, competing with that sector's support from private donors, corporations, and foundations. Thus, a deal was struck between the University of California and the private colleges and the universities of the state that the university would confine its fund raising to alumni of the University of California, leaving the rest of the field to the private sector. That agreement broke down over a period of time, but as it broke down, the private sector realized that if the University of California could be successful in seeking money privately, that rather than shrinking the pool of people interested in the private sector, it actually tended to expand it; so competition here, rather than being hurtful to one or the other, has proven to be enormously beneficial to both, each now setting records for private support to higher education. The University of California, for example, raised $1.1 billion last year from the private sector; and the private sector does even better, and that's great, as far as we are concerned.

Secondly, the University of California supported the provision of state funds for scholarship support for students attending universities and colleges in both the public and the private sectors with the amount of money for the scholarship being tied to the level of tuition. Thus, the tuition at the private institutions, being multiples of what it is at the public sector, the private sector benefited substantially from this arrangement although the public sector also received public support for the most needy of its own students.

There are ways and means of cooperating as these points illustrate; and I would say that generally speaking, whatever the concerns at the

outset of the plan, the relations today between the public and private universities within California are excellent.

Q: Zehev Tadmor
I wanted to ask one more question: how is the $14 billion total budget being divided between the various sources of income?
A:
I just happen to have the answer. Of UC's $14-15 billion budget, student tuition and fees are $1.4 billion; grants and contracts are $3.9 billion; income from our medical centers, hospitals, clinics is $5.5 billion; state funding is $3 billion; private gifts are a billion this year; and self-supporting activities (residence halls, parking services, athletics, and the like) are another billion. I hope that adds up to roughly what I said it was.

In addition, UC manages three national laboratories for the US government: Berkeley and Livermore, California, and Los Alamos in New Mexico for another $4 billion.

Q: Zehev Tadmor :
Being a state university system, it is surprising that the state's support is only $3 billion out of the total $14-15 billion.
A:
Yes, but the point is that the state support makes everything else possible. It's the core support, it's the instructional support, it's our leverage. California's willingness to fund a favorable student-faculty ratio, its willingness to provide most of the physical plant, its willingness to provide the computer facilities, the laboratories and related equipment, the clinics and much of the medical facilities, and the libraries is what allows UC then to leverage these resources.

We feed off of the state's investment for purposes of securing grants for research from the federal government, persuading donors to help us, charging reasonable tuitions and fees so that the students can also help support this enterprise. We have a very efficient set of self-supporting auxiliaries, earlier mentioned that support much of the operations of the institution on a self-supporting basis.

The university extension, for example, which has 350,000 mostly adult, non-degree seeking students enrolled throughout the state, is funded entirely by those enrolled. There is no state money in it at all.

Q: (Name Inaudible)
Could you please elaborate on the transfer of students between the three tiers of the system? Something that I know we would be interested in.
A:
Yes. It was essential in the Master Plan itself for this transferability of students not only to be agreed to, but to be real, and if it had not been for this possibility, the Master Plan would never have been approved. The distribution of students at the freshmen level is obtained in ways I've already described: the top one-eighth are eligible for UC (although they don't all come to UC), some go to the community colleges first, even though they are eligible for the University of California, because of family, personal, or financial reasons.

The California State University draws from the top third of California's graduating high school students, and the community colleges are an open door. If a student in a community college, for example, successfully completes a two-year course of study that is consistent with UC's articulation agreements with the community colleges, then UC will find a place on one of its campuses for such a student. The same thing is true for the California State University. UC gives a clear preference to students coming from the community colleges as juniors; it admits almost no one coming from the California State University system or any other four-year institution as such students can already earn a baccalaureate degree in their home institution and the community college student cannot.

Sheldon Rothblatt
Shalom from Israel, we miss you. Can you hear me?

David Gardner
Very well, I even recognize the voice.

Sheldon Rothblatt
Actually I'm not asking a question. There was a question asked earlier that had to do with the CSU system, and you answered it I think essentially with respect to UC, so I'd like the lady who asked it to ask it again.

Q: (Name Inaudible)
Thank you. I asked about the state universities and the faculty there. Do they have access to research? The state universities offer only a

bachelor's degree and the question is, what happens to the faculty in long term, if they do not have access to research?

A:

The California State University system is funded by the state in ways consistent with its assigned mission. The mission is to offer a full undergraduate program and selected master's degree programs, mostly in professional fields. The state funding per student is consequentially less for the California State University than for the University of California, and, therefore, the teaching loads are higher in the California State University system than in the University of California, but the research responsibilities are less in the California State University than in the University of California. The research at CSU, generally speaking, is tied more directly to the instructional program at the California State University and is to be of a more applied kind than in the University of California where there is a more generic interest in basic research.

So there are those differences. But inasmuch as a significant percentage of the faculty of the California State University received their doctoral training at the University of California, one can imagine that there are certain aspirations on their part for modifying the Master Plan and to allow more research in these institutions and less teaching, more of the UC model than the CSU model. In other words, the tension about this is ongoing. The state, however, likes things the way they are because it costs the state more for students at UC than for the students at CSU; and were the missions to be more alike, the cost to the state per student would rise but without what is presently perceived to be any discernible added benefit to the state.

Q: Moshe Arens

I am the Chairman of the Board of the College at Judea-Samaria in Ariel. Who determines what graduate degrees can be given by the state universities?

A:

Do you mean the California State University? Well, the California State University has the authority to make that judgment within the mission assigned to it, with the decisions of CSU being subject to review by the Coordinating Council for Higher Education. This postsecondary coordinating committee is a state agency, which is in disfavor at the moment, but historically has been a coordinating body

reviewing such decisions, including UC's, to make sure there is not excessive duplication or unwise decisions being made with respect to the quality of the programs being offered. The Council offers independent advice to the legislature on these matters.

The other difference is that unlike UC, which receives a block grant from the legislature, CSU's budget is mostly a series of line items, where the state legislature specifies what the money is to be spent for, leaving much less discretion to CSU as to the allocation of its budget contrasted with UC's. The University of California, in comparison, has authority to make these decisions. We get a block grant from the state and decide how to spend it.

Zehev Tadmor
Thank you. I just wanted to point out that Misha Arens, who introduced himself as the Chairman of a College in Israel, is the former Minister of Defense of the State of Israel.

Q: Meir Zadok
A question about funding. You mentioned a figure of $5 billion for a medical faculty, which is really a huge amount. Is it subsidizing the system, other faculties, or it covers its full cost? Can you also elaborate about the division between the various campuses, at Berkeley for example, how other universities are getting their funds?
A:
I want to make sure I understood your question about the medical schools. Could you just repeat that part please?

Q: Meir Zadok
You mentioned a figure in the income of roughly about $5 billion, which is really far more than the money that is given by the state, I just wonder whether it covers the full cost of the medical school or the system is also being subsidized by other means?
A:
Thank you, I do understand your question. The funding for the medical school and other health service schools and colleges arises from a combination of sources: the faculty positions, i.e., the professorial positions in the medical schools, are funded by the state; the research positions for the most part are funded by research grants from the federal government, e.g., National Institutes of Health. The hospitals are financed in part from fees paid by patients, and by

Medicare and other federal or state programs for those unable to pay; and by gifts from friends, alumni, corporations, and foundations; from state support for capital and infrastructure costs; and from the clinical services that are provided by faculty members who hold regular professorial appointments, and by other faculty members who hold clinical appointments only.

It is worth noting that while $5.5 billion is a great deal of money, the university's network of hospitals, clinics, research facilities, and related programs and activities found throughout the state is vast and complex, not to be found just on the five campuses having medical schools and hospitals.

Q: Meir Zadok
I have one more question: can a state university advance to the status of a four-year university and what will it have to do in order to promote itself?
A:
You mean, can the California State University become a doctoral-granting institution?

Meir Zadok
Right.
A:
The answer is no, unless the legislature should amend the Master Plan to permit it, and the governor signs the bill.

Meir Zadok
So this will have to be a bill on the legislature that will have to be passed?
A:
Yes. There would need to be an amendment to the California Master Plan for Higher Education. It would have to pass the legislature and it would also have to be signed by the governor; and I can assure you that the University of California would not be indifferent to such a proposal.

DIVERSITY, AUTONOMY AND THE ROLE OF GOVERNMENT IN HIGHER EDUCATION: Problems of Reform

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In every modern society, the expansion of higher education over the past half century has transformed systems of elite universities into systems of mass higher education. Some societies have moved toward creating the opportunities for universal access. A successful transition from elite to mass higher education has been marked by a number of changes and reforms of the systems and their constituent institutions. Among these have been:

1. The diversification of the types of institutions of higher education in both form and function. This has mirrored the growing diversity in the origins and destinations of students as the systems have grown. Some of the emerging systems have provided, under different names and arrangements in different societies, a. a sector of research universities, awarding degrees up through the doctorate, b. a sector of colleges, devoted primarily to teaching and the awarding of first professional degrees, c. a system of open door institutions, giving access to working and mature students, awarding certificates and for a minority enabling transfer to a college or university, d. an Open University, allowing studies at various levels of proficiency to study at a distance for a variety of awards.

2. Additional reforms associated with the transition to mass higher education have involved:
   a. the grant of greater autonomy from governmental supervision to the institutions. This involves enabling or permitting the institutions to supplement support from the public purse by raising funds through tuition and through services to the

private sector, as well as through the more traditional sources of support for research and private gifts.

b. the strengthening of the role of the institutional president, under whatever name.
c. the creation of strong, regular and recurrent procedures for quality control within the institution.
d. the creation of procedures for the external monitoring of the adequacy of the internal quality control procedures in each institution and department, through a regular and periodic audit of those procedures.

Every society with a growing system of higher education shows some of these changes; few show them all. The absence of some or most of them have created severe problems for countries whose systems are making the transition to mass higher education, or moving toward universal access. This paper will also explore some of the problems created by the failure to make these changes and reforms at the transitions from elite to mass higher education.

By now, these conditions for a successful transition to a national system of higher education that serves the supporting society, and not just the elite universities, are widely understood if not wholly accepted. But if so widely recognized as desirable – individually if not the whole package – why is it so difficult to get these reforms made?

Ironically, some of the problems delaying or inhibiting reform are the very elements of the system that need to be reformed. As we look at some of the forces opposed to reform in higher education we need to stress that reform efforts rarely confront any one of these forces or conditions by itself. They are ordinarily faced in combination, mutually reinforcing – one might say, as defenses in depth:

One of them is surely the weakness of the university president, by whatever name. The weak presidency where it is found is both a feature in need of reform, and also a hindrance to achieving it. The weakness of the university president, or rector, or vice-chancellor, was and is related to the strength of the professoriate. The identification of the university with the body of senior scholars, arising at the very beginnings of the European universities and reinforced on the Continent in the 19th century, was a significant source of the intellectual strength of European and especially of the German

universities, in the nineteenth century. In the preeminence of that system, from which so much was learned and borrowed by both the United States and Israel, among other countries, the value of the high academic standards and austere meritocracy of the chaired professor was established, and given an almost unchallengeable authority in university systems influenced by Germany well into the twentieth century. (British universities were an exception to this pattern: for their own historic reasons, at Oxbridge the college fellows retained their power through their central role on the governing bodies.) As Joseph Ben-David and Abram Zloczower, noted years ago, a largely unnoticed element in the German university preeminence was the element of institutional competitiveness among the several länder, each of which in the 19tth century had its own university.[1] And that kind of institutional competition was and remains a force for change, and partly accounted for the preeminence of the German university right up until 1933. But still, in their own eyes, and in that of the other elites, the system of control by the ordinarius professor – individually controlling in their own departments, and collectively controlling in their institutions – could not be seriously challenged until recently. And as long as the professoriate remained highly selective, difficult to achieve, and powerful, the university rector remained the chairman of academic committees, without significant independent power or authority. The rector was and in many universities is still elected by the professoriate, came from their body and returned to it after his short tenure – and in Germany was further constrained by a curator, appointed by government, who managed the institution's finances and institutional administration.

So the current model in many European universities is still that the institutions are led by rectors (by whatever name) who are elected for relatively short terms, often in contested elections by members of the academic senate with (since the 1960s) representation of students and non-academic staff. In addition, deans are also often elected by their constituents. The familiar result is a weak officer, or more broadly, a weak central administration, with the president/rector more of a chair of committees, primus inter pares, than a chief executive officer able

[1] J. Ben-David and A. Zloczower, Universities and Academic Systems, European Journal of Sociology, 1962, 3, 45-84.

to initiate and effect significant changes in the institution's mission or its capacity to carry it out.

This pattern has deep historical sources, as a way of preserving academic freedom – the freedom to learn and to teach – against non-academic powers in state or church. A weak administration is a conservative force, subjecting internal change to the approval of academics – often the senior academics – who often are comfortable with existing arrangements, and wary of significant change. When social and intellectual change was slow, the costs to the speed of change – which often had to wait for the generational change of the ordinarius professors – were arguably worth the gains in academic autonomy and academic freedom. But today institutions need to be able to change rapidly and nimbly, both because of the fantastic change in the map of learning that has come with the scientific explosion, and also because of the rapid expansion and changes in the nature of institutions and their students and missions.

Knowledgeable people in universities and government in every advanced society recognize the importance of a strong institutional leadership responsible to a board rather than to the academics. But they also recognize that such leadership cannot be effective unless it takes the sentiments of the academic community very seriously, and makes decisions through a process of close consultation with the academic senates or their equivalent. In UC we speak of "shared governance," with the senate and its committee, or the departments having substantially total control over the curriculum, the appointment and promotion of academic staff, and the admission of students. But when it comes to the broad direction of the institution – for example, the distribution of resources among subjects, the decisions about the size of institutions and their missions, the capital budget – decisions of that kind lie with the president subject only to continued support by the board of trustees.

The need for stronger institutional leadership is widely recognized in many countries, but many of them lack the political will or capacity to make the needed changes – drastic changes, as it seems, in the traditional and cherished forms of university governance. So in some countries some reforms have been made – for example, the terms of appointment of presidents/rectors has been lengthened in some countries – as in the UK and in Germany. But the question of how

the president is selected: whether elected by the full professors, or by some subset of academics, or by appointment by an external board of governors or trustees, is a significant issue, as is, more broadly, what powers inhere in the office, whatever it is called. For example, when professors retire or leave for another institution, who owns that position? Traditionally, in many countries, the faculty or department has a kind of property right, in effect owns the level of support it has been granted in the past, (subject to governmental decisions about budget), and it is assumed that it can fill an open position. But that may not be in the best interest of the institution or the country. Institutional leaders who are elected by their colleagues may not have the power to redistribute the resources of the institution in response to changes in student interest as reflected in enrollment, and changes in the map of knowledge. Departments and Faculties naturally defend their own interests, often with passion. But the president/rector, and the senior academics administrative officers whom he appoints, if he appoints them, are the only administrative officers who represent the institution as a whole, and who can override the parochial interests of a senate or a department or faculty in the interests of the institution as a whole.

I have said that the resistance to reforms takes the form of defenses in depth. Proponents of structural reform may have the courage to speak truth to power, but too often they have the truth and the defenders of the status quo have the power. So reformers often win the arguments but not the structural reforms that they advocate.

It is not uncommon that the old regime in the universities, if I may call it that, has its representatives in the senior levels of government as well as in the legislature. In some countries, Italy comes quickly to mind, a number of active senior professors hold seats in the national legislature, and look after the universities' interests there. But in addition, not uncommonly political elites who have been through university remember it as it was when they were students through the mists of nostalgia and selective memory. Alumni, as Americans call them, are among the most conservative constituencies of universities, and they often occupy leading positions in all the political and economic elites. That is true in the US as well, where their warm memories and strong identifications are exploited for gifts to their alma maters, and enlisted at times of threat to resist encroachments by

government on university autonomy. And that is all very well if and when norms and procedures within the universities for self-criticism and continuing internal reforms are in place. But where the internal culture of the institution is itself in the hands of conservative senior professors, then the role of alumni tends to strengthen the resistance to reform.

Impediments to reform take many mutually reinforcing forms. For example, in many European countries there is a strong cultural and political commitment to the equality of all the universities. Most of the reforms I have mentioned require a measure of institutional autonomy, and the capacity to take initiatives that are likely over time to create a measure of diversity among the universities, to lift the quality and reputation of some over that of others. The only sure way of preventing that is to narrowly constrain the freedom and autonomy of institutions to innovate – and that can be accomplished partly by funding them all on the same formulas, and partly by regulations governing what they can do. Here we see the hand of ministries among those impeding change. Ministries are not so much opposed to organizational reform; it is just that they prefer that they reform emanate from them.

And beyond all these forms of resistance lies the deep self confidence – perhaps we can call it the self-satisfaction, even the arrogance – of the university academic community itself. In every country universities can look back on a century of achievement, their Nobel Prizes, their contributions to the health and welfare of the supporting society, to their distinguished graduates in every field of endeavor, and say, to itself to its world "If it ain't broke why fix it." Even where observers both inside the universities and outside them see the need and even, we may say, the necessity of reform of the universities, the participants often do not feel any such need or necessity. They see a thriving and productive institution, and feel that all its problems would be solved by more generous government support. That is where the need is, the universities cry, and all this talk of structural reform is merely a diversion from the real needs of the universities, which is more money, and more predictable funding. Indeed, in their eyes, all the talk of "reform" is merely a cheap and ineffective substitute for, a distraction from, the resources which would make, as they argue, all the difference to their effectiveness.

Well, there is something in this from institutions which are arguably severely underfunded, as compared with their past, or with the United States. But whatever the arguments for more money, those arguments do not deal with the real problems created by the difficulties that many national systems have generated for themselves in their inability to make the necessary structural changes associated with the transition from elite to mass higher education. And here it is worth noting some current problems in Germany – from which both Israel and the United States have borrowed so many ideas and even structural arrangements.

All European systems are currently struggling with adaptations of their own, often very old, organizational and curricular arrangements to the requirements of mass higher education. And the central response of the European Union to these demands has been the agreements embodied in the "Bologna Process," as they were enunciated in that city in June 1999.[2] Bologna is very much a part of broader EU policy, and aims at constructing a European Higher Education Area. Central to the "reforms" embodied in those agreements are a movement toward the English/American degree pattern of three years to an undergraduate degree, whatever its title (in the UK and U.S. it is the bachelors' degree) and two further years to a Masters degree, the now familiar 3/2 plan. Other reforms are also part of the agreement, but basically what is aimed at is a degree of rationalization—or as the "Process" puts it, a "harmonization"—of the disparate curricular and academic time arrangements of different countries, in part to allow a greater degree of movement of students among them, and in part to reduce the prolonged periods of study (or at least of formal enrollment) that students undergo in some countries before a degree is earned.[3] What the policy did not have was much input, if any, from the European academic community, whose members were presumably going to implement the new arrangements. Bologna until now has been very much a "top-down" politically driven process, and in Guy Neave's view, likely to lead to resistance at the institutional level in many countries.

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2 For an informed, critical and skeptical view of the Bologna Process, see Guy Neave, Presidential Address to the 26th Annual Meeting of the European Association for Institutional Research, Barcelona, September 5th, 2004.

Neave (2004) points to the distance between the planners of Bologna and the academics who are being asked to "embed — that is, actually implement — it in their own institutions: "Policy implementation is a reiterative process. It is re-negotiated, and very often sadly mangled as The Word from On High works its way down through successive levels in the great chain of decision-making. Institutions and beneath them Faculties, Schools and Departments, reinterpret the Divine Message, according to their particular theology and sectarianism. Each interprets the directive—or the policy—to its own advantage, emphasizing its strengths and shoveling whatever weaknesses it is prepared to admit to itself, beneath the rug."[4]

"Viewed by those who sit in authority—whether in Rectorate or Ministry—what emerges as `policy response' bears only a distant relationship to what Authority had originally in mind. It is greatly frustrating. Naturally, such frustration has its very own scholarly terminology—'resistance to change', 'Ivory Tower-ism' or even, as I have seen from time to time, 'Humboldtian' attitudes. What is perceived as obduracy by reformers reflects that basic feature students of higher education have long noted and dissected—namely, that higher education may, depending on national administrative culture, be top driven. It is also 'bottom heavy'. Thus, the assumption of linearity that underpins the Bologna Process, viewed from within the *Pays politique* is questionable indeed when viewed from what we know about institutional behavior seen from the standpoint of [the academic world]. It is precisely the 'bottom heavy' nature of higher education that Bologna has chosen to leave aside. Or, to discount it, at least. It is, I think, a very grievous error." [5]

To take Germany as an example, the vice president for academic affairs at International University Bremen illustrates Neave's point from the perspective of an administrator of an institution who would have to "embed"—ie., implement—the Bologna reforms: "The main but unstated purpose of the German bachelor's degree is to reduce the overcrowding in the universities and thereby to save money in the federal higher education budget. A second purpose is to conform to the new Europeanwide standardized-degree structure budget that

[3] ibid
[5] ibid

will allow greater mobility among students internationally. Yet there is no coherent pedagogical or intellectual basis for the initiative. Not once in the debate in Europe about the introduction of the bachelors's degree have I heard an argument about how it improves what or how students learn, how it strengthens the students' ability to cope in the rapidly expanding marketplace of ideas and information, or how it provides a more solid basis for the student's further education, either in the professions or in research. It's all about saving money and getting students out of the classroom and, it is hoped, into the workforce."[6]

And here we see the resistance to Bologna made on the grounds that it is a substitute for a real response to underfunding, and has little to do with education, which is likely to remain a perennial problem for European universities with their tradition of "free" higher education.

But behind and beyond the problems posed by the Bologna Process lies the chronic underfunding of almost all the European systems, rooted partly in their deep reluctance or refusal to charge realistic fees to students. "The reluctance of the German people to pay fees to their universities—which, with very few exceptions are all public institutions and supported almost exclusively by tax revenues—reflect deeply held beliefs about the state's responsibility to educate the citizenry. Germans pay tax rates that by American standards are exorbitantly high, and in return, they expect things in the public domain—including university education—to be free, or at least very inexpensive."[7] And this is not merely a strongly held belief, but is written into the nation's Federal Constitution.

Add to the European commitment to "free" university education the near absence of endowments for institutions. "[T]he tax laws are such that it is highly unlikely that a tradition of giving endowed funds will ever take root."[8] Underfunding is likely to remain a chronic problem for most European nations, not least the newest (and poorest) members of the EU that have just joined the club.

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[6] Thomas John Hochstettler, "Aspiring to Steeples of Excellence at German Universities," *The Chronicle Review*, July 30, 2004.
[7] ibid.
[8] ibid.

The defenses by higher education systems and institutions against most reforms are multiple and overlapping. For example, Germany has been notorious for the difficulties it creates for gaining a chair in a university. According to one observer, "The process of becoming a professor in Germany has traditionally involved completing what amounts to a second dissertation after obtaining the doctorate. The so-called Habilitation, which all applicants for professorships must finish requires postdoctoral candidates to pursue research for several years under the supervision of an established professor and to write another thesis. As a result, most German academics are in their early 40s by the time they become full professors [if they ever do so]. [A new law] would have phased out the Habilitation by 2010 and made junior professorships—available to candidates who had completed their Ph.D.'s within the previous six years—the sole path to full professor ships . . . [But] an eight-judge panel of the Federal Constitutional Court ruled 5 to 3 against the government last month, invalidating a 2002 statute that created new junior-professors positions at German universities."[9] [10]

The conservatism of the German system, marked by the diversity of arrangements among the Länder, the requirement that they all agree on many issues, conservative and powerful educational bureaucracies and courts, and equally powerful *ordinarius* (chaired) professors who substantially govern their universities, is perhaps extreme. But while other European countries have somewhat greater flexibility, none of them has created the funding base plus the level of institutional autonomy plus the strong institutional leadership with extended tenure that is required to create and sustain universities of great quality under conditions of mass higher education.

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[9] Aisha Labi, "German Court Overturns Law Designed to Streamline Path to Professorship," *The Chronicle of Higher Education International*, August 13, 2004.

[10] Europe's difficulties in competing with American universities arise in part from the weight of European egalitarianism "which strives to provide a solid education to as many students as possible while refraining from rewarding exceptional talent." Martin Enserink, "Reinventing Europe's Universities," Science , vol. 304, 5673, 14 May 2004, 951-953. On the poor international standing of French universities, see Gilbert Bereziat, "Université Pierre et Marie Curie: France's number one university in the TOP 500 higher education institutions in the world."

The balance of forces against university reform varies in different countries. Each country has a different pattern of response to the pressures of student numbers and the diversity of talents and ambitions that they bring to higher education The rise of broad research institutes outside the universities in some countries that are more responsive to the changing map of knowledge in the sciences and technologies weakens the pressures for reform of the science faculties in the universities. Moreover, the emergence of Open Universities also weakens pressures for change in the universities, as does the growth in the number and variety of non-university institutions of higher education – the non-research colleges which are the fastest growing sectors in many countries. So it is not altogether unrealistic for university people to point to those institutions as better able to respond to the pressures of mass higher education than are research universities. Why is that not an adequate reply to all the calls for university reform?

I think the answer is that the universities need reform for their own sake, as places for teaching and preeminently, for research. If the universities decline, then surely the research function will survive; -- it is too important to every nation, and it will migrate to research institutes or to the private sector, as it has done already to a considerable extent in France and Russia. But those of us who believe in the importance of a close link of teaching with research, and with the unique role of universities in intellectual life, look to internal reforms that make them so.

Beyond that, universities are only one segment of a national system of higher education, of which teaching colleges, and open door vocational institutes and the Open Universities are properly part – and in the world of mass higher education, of equal importance. And the health of that system depends on the character of the universities which play, or can play, a central role in that system.[11] Reforms of the university may be necessary for them to develop the kinds of relationships with the other sectors of higher education that will

[11] This theme is developed more fully in Trow, "On Mass Higher Education and Institutional Diversity," The Samuel Neaman Institute for Advanced Studies in Science and Technology, Technion-Israel Institute of Technology, May 2003.

enable them collectively to serve not just knowledge and science, but in more various ways, the societies that support them.

Q: Leslie Wagner

I feel a little vulnerable, as I think that any person from a UK institution would be here, and also facing Martin Trow's formidable reputation, but I disagree with him. It would take too long to say why I disagree with him; we need a round-table of our own for an hour or two.

The point I would want to make is, Martin, you used the phrase "unsuccessful" and the question come to mind, what is the criteria by which we make those judgments? By some criteria it has been unsuccessful, but by other criteria it has been extremely successful. You may not like that there are some criteria that make it unsuccessful but by other criteria it has been successful, so I think we just need to stand back a bit before making those big judgments, and I speak not only as an observer put a participant observer, I ran two institutions during those 10 year periods and it felt successful.

My point is, that when it comes to criteria – I may now say something that takes me out of the club, and that is very cozy club that we are in – which is that we have been a bit self-reverential in all this, we seem to be thinking of the whole issue from the point of view of the institutions. Is it good for the institutions? I know we have said other things, but the issue of the accountability of higher education to society and whether that accountability in a transition to mass higher education can be covered by non-quantifiable evaluations by trust. Trust as we know what we are doing, we will deliver you what we think you need, and even what you think you need may not do, and does not do in most societies when we move to mass higher education, and it is one of the costs, in my judgment of moving to mass higher education, and so again from time to time we do mention something called "students" and their needs but they come in left-field occasionally, they don't seem to feature too strongly in our concerns.

So I think we just, not because of the UK but more generally, just need to get out a bit actually and not look inwards too much about what higher education is trying to do.

My question, which is at the heart, I think it has not been asked yet, but to me and in the UK it has been in the heart of the issue. By the way I raised that point yesterday in my talk, it was in the side, I

think. The question that must be asked is, do we need the adjective "research" in front of the word "universities?" If we do need it, then we by definition assume something called "non-research universities," and if we don't need it, then we should not use it, therefore we must assume all the universities are research universities, but we keep using the word "Research Universities," which implies there must be some universities that they are not research universities, and it is certainly the case in the UK.

But underlying that point is the question I want to put, which is, is it possible to have high quality teaching without a strong research base in an institution and by extension a department? If it isn't, and if the view is that you cannot undertake bachelor teaching to a bachelor degree without an adequate research base, then there are things that flow: it does not matter what we call the institutions, whether they are universities or colleges, that is a structural and status issue, in terms of what we offer the student, that's the key question.

By default we see in all systems, California, UK – and as it so happens I am in Israel – that you can assume you can teach high quality to a bachelor degree without adequate research, and if that is the case then all the others is a status, but we have to establish that first question. If you say you do need research, then you cannot have a mass higher education system because no society can afford to pay for the quantity of students that want to get to bachelor status through its own State taxes. You have to have either a private system or you have an elite system.

A:

Your point about the criteria for success is right on. I really do think that in order to develop this issue we will have to raise the question of what is success and how can it can be identified and assessed. These are in part subjective judgments. But my use of the term is based on a fair amount of field work, and evolved in part out of the testimony of teachers regarding the quality of university teaching and what has been happened to British universities over a period of time. What I can put very strongly is the question: has there been any damage to the recruitment by the universities of a fair share of the best young minds to academic life? That is very important, and I don't think that the British have really paid any attention to whether they are getting

their fair share of the ablest young people to the academic profession. If the events of the last several decades have made academic work less attractive, then we are living on the inherited capital of the able people in the institutions who came to it when it was a more attractive field.

So I think those are the questions I had wanted to talk about. On the definition of universities, both the United States and more recently the UK, have uncoupled the word "university" from research. That is not the case, when it involves a much more complicated matter and I think I made passing reference to that.

On the other point, I absolutely agree that there are different kinds of research, and various people have talked about what might be called "research of scholarship." That is the phrase that refers to the continuing study by non-traditional academics of new work and ideas in their field, and their remaining abreast of the frontier of work in their field. That requires sabbatical leave and the availability of continuing learning by academics. I have thought that one important niche to be occupied by an open university is the continuing education of teachers. Sometimes it is done in schools and departments of education. Over there they sit in the same classes with youngsters getting their teaching credentials, and that may not be the best place for them. I believe that there is a potentially important role for some other institution, which may very well be the traditional research universities or the Open University, to devote itself to the continuing education of college teachers in their own subjects.

REFLECTIONS ON THE PRESENT CULTURAL, AND INSTITUTIONAL DIFFICULTIES IN EUROPEAN "KNOWLEDGE PRODUCTION" 2005

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In our deliberations we seem to go down the same road as the famous Florentine renaissance poet Dante Alighieri. But, alas, we are going backwards – from Paradise to Inferno. So, we are now leaving sunny California, passing through the foggy, but still habitable, North Atlantic islands, and finally reaching the dark waters of continental Europe. Before I carry on, I must make it abundantly clear, that this is a highly personal view, which means that my learned continental friends, Guy Neave and Ulrich Teichler, will probably correct me later on in the proceedings. Nevertheless, it is my deeply felt conviction that for more than 20 years the continental European system(s) has been conspicuously lacking the prerequisites for a successful transitory process, which Martin Trow so eloquently described earlier in the conference.

Hence, in my view, the European higher education system, or systems for all that, are going through a process of major historical disorientation, and this has been brought about by the confluence of several simultaneous cultural and intellectual, as well as economic and political forces. The development in science policy, research organization and higher education has also had a lack of orientation, and actually led to a crumbling of the value system of the traditional European University. There are politicians and academics who will try to describe this as only a short term consequence of the demise of the Soviet Empire and the ending of the Cold War and that we just need a short time of reorientation to get back on the right track again.

This, however, I maintain is an illusion. The fundamental changes in the two last decades in science policy, research funding and higher education policy have had their own specific dimensions and chronology, which started in the mid- and late-1960s. I also believe

that this process of what I would call "dissolution" actually gained real momentum in the early 1980s, and has had, I would say, a deep and lasting effect also on a deep cultural level.

I think this historical process, or change, is comparable with the institutional revolutions that characterized the previous two turn of centuries and both with the center of gravity in Berlin; I refer to the establishment of the *Humboldt Universität, Friedrich Wilhelm Universität zu Berlin* in 1810, and the establishment of the modern research university and simultaneous erection of the *Kaiser Wilhelm Institutes* at the beginning of the 20th century.

And since I am a historian I will take you on a more than 40-year long, and hopefully not too boring, historical ride. The changes during those crucial four decades can be noticed on every level of higher education and research, and not least on the central institutional level, i.e. in the university system, which is even more crucial, because the research universities have played an absolutely central role in European research. It has been, more or less, the only place where basic research has been carried out until recent years. Except for the French, and to some extent the Germans, we do not have an elaborate or extensive system of research institutes outside the university. In Sweden I would estimate that 90% of all research is carried out within the walls of the university, and I would argue that in the last 10 years you could claim that the European research university *de facto* has ceased to exist in everything but name and external form.

Simultaneously, on the principle political level, partly due to conscious political decisions, and partly because of varying economic, demographic and cultural processes, the national governments of Europe have abdicated from their traditional role of economic and political guardian angels to the university. I would argue that there have been two social contracts between the central national nation-states and the university. The first, which I indicated, was signed in 1810 in Berlin, and the second, actually formulated by Vannevar Bush, was signed in 1945-1946 in Washington and secured a research funding system based on academic excellence. These two contracts have been annulled by the European politicians and at least not yet been renegotiated or substituted by anything else.

Instead, the relations between the national governments and the universities in present-day Europe are characterized by mutual and deep distrust, which in turn has led to what must be characterized as an accelerating process of institutional implosion and/or dissolution. Paradoxically, this development, usually described by its most fervent proponents as a process of de-regulation and de-centralization, has almost everywhere been accompanied by a trend of, sometimes, massive politicization of higher education and research. This, at least in some cases, has led to the redefinition of the ultimate role and mission of higher education institutions. They are no longer considered to be responsible and invaluable academic and national cultural centers, but are rather primarily seen as instrumental means to hide unemployment among young people, or at best to function as development or innovation centers in national, or even regional economic policy.

In addition, this process has been accompanied by an almost explosive growth of numerous evaluations and accountability schemes, which has turned the traditional European system of exclusive and strict input control, "*Abitur, Habilitation*" that was the only control mechanisms in the old German university, into different types of output control where practically everything that moves is measured.

Roughly during the same period, research funding has undergone a period of massive bureaucratization and instrumentalization. This is primarily but certainly not only manifested by the constantly growing importance – direct and indirect impact – of the so-called EU "Framework Program". It has also, to a very high degree, become a dominant trend in science policy and research funding on the national level.

The policy for science that characterized the first three decades, the Vannevar Bush formula, has in practice been abandoned for something that rightfully could be labeled "politicized science". This has gradually led to the growing tendency in research funding to replace the traditional criterion of academic excellence by more nebulous criteria, sometimes labeled "strategic", sometime "social economic relevance", sometimes "mode 2", sometimes "the production of socially robust knowledge". I could go on for hours with this almost Orwellian type of science policy "New-speak".

Subsequently this had led to a system of research funding, where politically controlled earmarking, "pork-barreling", and strategic allocation of resources have become the rule rather than the exception.

Ultimately this eventually has had deep consequences also for discipline formation and for other dimensions of the internal life of science and the universities, including the self-understanding and professional ethos among scientists and scholars. Thus it is not only relevant to talk about a gradual demise of the university, but at least in relative terms, also a decline of the disciplines, particularly in research policy planning. Even if the traditional disciplinary structure is still well anchored in academic life and prestige structure, it has nevertheless gradually lost its favorable position in the research policy hierarchy.

Usually this development is explained as a more or less natural consequence of the alleged widening gap between academic basic research and the acute real problems the world is facing and will be facing in the near future. But this is only partly true. For instance, the insistence on interdisciplinary approaches is not only dictated by the alleged lack of relevance in modern science, it has also turned into an ideological or political tool to undermine the traditional academic value system and autonomy.

The ominous development I've outlined above, as I have said earlier, really started to accelerate in the early 1980s. From then on there has also been a constantly growing gap between the US and Europe when it comes to the pursuit of excellence in scientific research. And even more significant, this gap has turned into a grand canyon, when we are talking about qualified research training and elite higher education, with a few possible English, Swiss and Nordic exceptions.

Hence I maintain that this process of dissolution is a fairly recent phenomenon which actually had very little to do with the relative loss of political power and economic strength in Europe after the Second World War. Up until 1985 for instance, the gap between the numbers of American and European Nobel laureates remains fairly constant. After that, the number of US laureates started to grow at an ever increasing pace.

Considering the natural delay of causes and effects in research practice and research policy planning, there are good reasons to

believe that something happened in European and/or American research policy in the 1970s, and it most certainly did. Starting in the 1970s, many European countries gradually replaced the existing Vannevar Bush model for science policy and research funding, and it is not only possible but even instructive to divide this process of fundamental change into three distinct chronological phases of research policy, which have had deep and lasting consequences on the well being of the European university.

The first phase, which could be labeled "the technocratic phase", started in the mid-1960s and lasted roughly until the late 1970s. This development constituted no immediate threat to the primacy of basic research and to traditional academic values. Instead it was seen as a complementary but supposedly more socially relevant form of knowledge production, which was funded and administered outside the traditional research sector, but, nevertheless, often under the qualitative supervision of academic research. It could, perhaps, a little simplistically, be regarded as an attempt to fulfill the old social democratic dream of the good society governed by a scientifically based and enlightened form of social engineering.

The second phase, through the 1980s and into the early 1990s, could be characterized as a massive effort of political interventionism under the above mentioned labels of deregulation and marketization. This did not just include a fundamental shift in the funding of research and higher education, it also entailed the introduction of full scale political steering and earmarking of research funding, where some ministers and government bureaucrats started to usurp what had hitherto been considered to be an exclusive academic function and prerogative, previously, usually carried out by different types of research council bodies.

Accordingly, during this phase, the attacks on peer-reviewing and disciplinary based research became open and sometimes even aggressive. These procedures were increasingly accused of being anti-innovative, conservative and ill-adjusted to the real social and economic problems we are facing in today's world, to quote a German minister of education. This anti-academic, and I would say anti-intellectual offensive was soon also eagerly supported by an array of post-modern representatives from within the traditional academic

community, who had an equally immediate and equally vested interest in subverting traditional academic norms and values.

The third phase, over the last ten years, could be described, I would say, as an almost deadly combination of the bureaucratic rule of the first, and the ideological interventionism of the second, and has been even more disastrous. The new system was introduced on a super-national level in the form of the E.U. framework programs, which among other things, also constituted blatant breaches with traditional forms and principles of science policy planning. Instead we actually got something almost similar to the old Soviet bureaucratic Five-year plans in science policy.

Simultaneously, and this is important, during this phase the systematic under-funding of the research universities, which in many European countries had started already in the late 1970s, became almost endemic, and additionally, the resources which eventually were allocated to the universities and research, gradually turned from a system that had included a substantial part of block grant funding into a system where so-called "competitive funding" became the standard operating procedure.

This meant that the possibilities of long-range research planning at the university level became more or less illusory. And, as I have said, this, eventually, led to a process of institutional dissolution or at least to what could labeled as "*anorexia institutionalis*," where universities have not only lost a great deal of their intellectual potential and economic muscle, but eventually also their capacity to function as independent and autonomous institutions.

In all fairness it must be stated that the most powerful force behind this transformation is the rapid growth in size and numbers of students. Generally speaking this was not only a necessary but, as Martin Trow has said, an adequate and reasonable response to the rising expectations of an expanding welfare state, or of a more democratic and equal society. This development, which gained momentum in the 1960s and early 1970s, was by no means, as all know, confined to Western Europe, but it was rather a general process that included more or less all industrialized or semi-industrialized parts of the world.

In the European case, however, the massive growth of the higher education systems took the form not of structural renewal but of rapid

expansion of the existing institutional and organizational forms, or as the German sociologist Thomas Ellwein summarized the German development, in 3 words: *Ausbau statt Umbau*: "expansion not reorganization".

So the German Humboldt system, which was actually supposed to take less than 3% of the age cohort, was now turned into a university system that rapidly grew to include 30% of the age cohort, and you can imagine what would happen to such a system.

All in all, it is not unreasonably unfair to maintain that in the European case, as Martin always has said, the rapid and massive changes have generally been carried out with few, if any, detectable signs of higher political wisdom, institutional prudence, or professional insight; at least not during the last 25 years and certainly not in comparison to other higher education systems – notably, for instance, the California system.

I would argue that one of the undisputed successes of the American research universities in the last century, and particularly in the last 30 years, the same period during which their European sisters declined, could at least to a certain degree be explained by their readiness and superior ability to react to social, economic, scientific and political changes. The European university, on the other hand, *has not changed* in the last 50 years. It has *been changed*, and finally reduced to a seemingly helpless political football.

In the mid 90s, the former rector of the *Wissenschaftskolleg* in Berlin, Wolf Lepenies rightfully stated: "to assume responsibility has become increasingly difficult for the European intellectuals, we are living on a continent that is in danger of losing its *idées directrices,* a continent that endures a weakening of its cultural certainties".

Thus, in short, we, and I am including you, dear Israelis, must realize that we are living not in a temporary economic, but also a lasting academic recession. Since the mid-1980s, as I have said, the gap in science, and qualified knowledge production, and in higher education between the US and the EU has been constantly widening, and today this gap has become a gulf and the process is moving faster and faster with every day. In my deliberations I have been primarily occupied with the German higher education system, because there I have some firsthand knowledge; I was a *Shtiftung* Professor at the Humboldt University from 1998 to 2000. But I think that my

deliberations and what I have said are more or less relevant to most continental European university and research systems.

In order to get out of this awkward and even potentially dangerous situation, we do not need another ludicrous declaration by the EU prime minister or ministers of education that "the EU in 10-years time will be the most competitive and dynamic knowledge based economy in the world". Instead, we have to devote all our efforts, and a substantial part of our economic and human resources, to rebuild our education systems in general, and our crumbling higher education systems in particular.

In short, in addition to building a well-functioning system of almost universal tertiary education, we must consciously and systematically create a number, say about 90, of adequately funded European elite research universities that are seriously devoted to the pursuit of qualified knowledge, the rigorous critical appreciation of achievement and the academic and professional training of talented young persons at the highest level.

In order to achieve this, however, we have to create a functionally diversified higher education system. This in turn means that the formulation of a sustainable and functional idea of a university still remains a categorical imperative for every society with a rationalist enlightened vision of our collective human endeavor.

This, not least because I truly believe that a research system, which is totally independent from that particular and peculiar "*Lebenswelt*" that the European research university has constituted for 200 years, will sooner or later suffer from a deep loss of creativity, competence and eventually also from a drop in economic efficiency.

In our necessary efforts to convince the ruling classes, and at the same time to remind ourselves of our duty to preserve and cultivate this irreplaceable intellectual space and institutional order called university, we still need the examples of the two Prussian *Musterknaben*, Alexander and Wilhelm from Humboldt. Certainly not to tell us and show us how to do it, because they can't, but to convince us that it can be done, even under the most pressing and depressing circumstances.

THE IVORY LIGHTHOUSE

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1. The Ivory Tower, the Human Factory and the Ivory Lighthouse

In the spirit of full disclosure, please allow me to begin by stating that I am not a historian, I am not a social scientist and I am not a professional academic in the field of comparative higher education. I am only a theoretical physicist and everything I will say here today will therefore be devoid of any intrinsic formal academic value. I am not saying it cynically. I am speaking here as someone who is familiar with the higher education system from the point of view of decision making, policy planning, scientific administration and government relations. In my remarks, I do not want to look back. I prefer to look mainly at the future. Given that I am not occupying now any important administrative position, I can say whatever I wish without committing any organization to my views. This is a great privilege, which you do not have when you lead a large institution.

In these remarks, I will try to outline my own personal view of a desirable university system, not only for Israel but also for any other advanced country. My preferred model has a clear resemblance to certain aspects of the American system and there are certain parts of the Israeli system that are constructed precisely in this way. However, certain elements of this picture are not yet recognized by everybody. I would like to try to integrate them into a coherent blueprint, which may be appropriate for the future.

I chose to call this presentation "The Ivory Lighthouse" for reasons that will become clear in a few minutes. But please allow me to start by going back in time, for a few minutes. My grandfather Haim Harari went approximately 100 years ago from Tel-Aviv to Paris in order to study towards a Ph.D. degree in literature at the Sorbonne. He died before I was born and, of course, never wrote any letters to me. However, if we could design

a time-machine, which would induce him to write me a letter from the Sorbonne, one hundred years ago, he would have probably written something like this:

> "A University is a remote isolated ivory tower, in which distinguished aging scholars, mostly with beards, contemplate philosophical and ethical issues, probe the most esoteric deep secrets of nature and train the next generation of selected brilliant minds to do likewise. The general public knows little and cares less about this secluded place, but admires the intellect of the Professors, understanding that they are a minor burden on the society which maintains them, similar to artists and to other useless great minds. The University has no relation to the business world, to industry, to government, to the pre-collegiate educational system or, for that matter, to anything else practical."

I believe that this is a fair description of the real ivory tower of the original elite university, a century ago.

Today, somewhere in Europe, a student might write a different letter:

> "A University is a huge processing plant, in which the raw material consists of a large percentage of the population in the relevant age group and the final product is mediocre practitioners of useful professions like law, physical therapy, accounting, software engineering, school teaching and dentistry. Most students are of average intelligence, admissions are open or almost so, tuition is free or almost so and the average Professor is far from being an admired legendary scholar. Quantity is achieved at the expense of quality. The cost to the public is substantial and the politicians constantly meddle in the affairs of the University and try to make sure that every penny spent leads to immediate practical results. The relation to the business world, to industry and to the pre-collegiate school system is still, at best, marginal."

Now, it is very clear that in the 21st century we don't want to have an academic system which fits either the century old

description, or the contemporary description. The question is whether one day we can have, instead of an ivory tower, an ivory lighthouse shining in all directions, such that:

> "A University is an ivory tower, devoted to creating new knowledge and to training an intellectual elite, while serving, at the same time, as a true lighthouse, training competent professionals, spreading enlightenment, contributing to the economy, helping school education, creating the foundation of sophisticated industry and ameliorating social problems."

That is a tall order. However, only if we can move towards fulfilling all or most of these goals, can we approach a university system which has both the elite quality and the social function feature, and which is accepted, appreciated, and perhaps even admired by the public, the politicians and the government.

2. Eliminating Some Sacred Cows

Before we even begin to discuss these issues, there is one thing that we, in the academic world, must tell ourselves. We must eliminate several sacred cows, which are harming our cause. The academic world excels in demanding larger budgets, in resenting political interference and in blaming the public. We may very well be right in all of these, but we are not very good in blaming ourselves for certain things. No fair discussion should proceed without starting from these "sacred cows", which are moving freely in our campuses and which should be eliminated.

First: *Creativity is not the same as the license to publish nonsense.* There is an enormous amount of intellectual garbage being published by the academic world. This is not the same as creativity. Creativity is the leading engine of research, but we are not always up to the required standards, even in some of the better Universities. The "publish or perish" syndrome produces too much quasi-research which is neither profound nor useful.

Second: *Academic freedom is not the freedom to spend money*. We always talk about academic freedom and rightfully so, and we should fight for it without any compromises. But it does not follow from this that we should have the freedom to spend unlimited amounts of money, just because we feel like studying some totally

absurd issue, requiring huge resources. There must be a certain balance here and we should adhere to it very carefully.

Third: *Contributing to social and economic problems is not underneath the dignity of the great scholars.* The academic system, everywhere, does not exhibit enough efforts of distinguished scientists and distinguished scholars, who contribute, in addition to their research and teaching, to social and economic problems, not necessarily only in their own professional fields. Please do not tell me that physicists cannot contribute to school education and don't tell me that other academics cannot contribute to numerous other social issues. Nothing would advance the image of the universities in the eyes of the public more than such an involvement in social problems.

Fourth: *Tenure is not retirement at the age of forty*. There is too much of that, and we all know it, and we are not fighting against it. I am not suggesting here to abolish the tenure system. Without the tenure system there is no academic freedom. But we should be very careful in what we are doing. We should be more careful about who gets tenure, when one can get tenure and how many people get tenure. Carelessness on this issue may lead to all sorts of unwanted avenues.

Fifth: *Excellence is not arrogance*. The academic system displays too much arrogance towards the political system, mainly based on the fact that the arrogant person happens to be an excellent scientist. It is not enough to be an excellent scientist. You also have to understand the pressures of the politicians.

And finally, an internal issue of our system: *Equality between scientific stars and mediocre practitioners is not the same as democracy*. It sounds like democracy. But it is not democracy; it is simply bad management of scientific institutions. In the same way that you can't give the same funding and equal treatment to the world champion in the ten kilometer run and to somebody who jogs ten kilometers every weekend, you should not treat the real scientific stars, which are few and far between, at the same level that you treat other average scholars. Universities which are governed by their senates will tend to do precisely that, and that is a very important issue. Of course you make mistakes by supporting the stars, but without these mistakes you will not have achievements.

3. Diversification of Sources of Income

We have been talking here about diversity for the last couple of days, but we have been mostly talking about diversity of institutions, and I would like to talk now about diversity of resources and diversity of tasks of the university. I firmly believe that a diversity of different academic institutions can come about only from the diversity of resources. We have heard here a great deal about the ills of the European university system. The single biggest problem of the European system is that it is almost entirely funded by government. If you are fully funded by government, you have no choice but to do what the government tells you. It almost follows that everything then becomes equal, and, *in academia "everything is equal" means "everything is mediocre"*. We will return to this point in a minute.

So let us first talk about resources. A university with diversified sources of income may receive support from the following sources: (i) central government support; (ii) local funds provided by a regional government or municipal sources; (iii) tuition fees; (iv) philanthropic gifts; (v) income from an endowment, if the university is old enough and rich enough to have one; (vi) competitive research grants; (vii) income from intellectual property; (viii) miscellaneous other sources, including sale of services, income from property, etc.

The above eight classes of resources are very clearly divided into two groups: Three of them are of an intrinsic egalitarian nature, while the five others are definitely not egalitarian. It is the distinction between the two groups of resources which allows for a diversity of institutions in the academic system.

The three egalitarian sources of support are the central government, local funding and tuition. Government support, which is based on number of students, number of graduates, number of fields of study or research areas, types of degrees awarded and similar parameters, cannot be very differential. Even if the government succeeds in including quality and excellence in a clever way in the criteria, the best and the worst institutions will be differentiated by relatively small amounts. This is a fact of life and it is understandable. To provide radically different

government support to different institutions would be against the nature of democracy and against any normal political behavior.

Local government support must represent regional interests. This is a positive feature, because it means that institutions in more remote places may have a better chance to get local support. But, in this case, quality will definitely not play an important role and international standards are less likely to dominate the decision making process.

Tuition is definitely egalitarian, especially in countries in which the government determines the tuition. I believe that it is absolutely crucial to introduce tuition fees for university studies and I firmly submit that the tuition must be uniform. More about tuition later.

If the above three sources of income are the only funding elements of universities, equality of institutions is a corollary. Unfortunately, nationwide equality means nationwide mediocrity. Academic excellence, by universal standards, can be achieved in a few institutions per country, definitely not in all. If all are approximately equal, all will be of average quality.

A strong variation in quality costs substantial money. Money is not sufficient, but it is absolutely necessary. Hence, quality depends on the existence of unequal sources of income, enjoyed by some universities and research institutes in a given country and not by others. This leads us inevitably to the non-egalitarian sources of funding.

The differentiating sources of income include ongoing philanthropy, endowment, competitive research grants, income from intellectual property and extra miscellaneous sources, which may come from adult-training courses, industrial parks, real-estate, etc.

Philanthropy is clearly dependent on the ability of the university to organize its fund raising efforts, on its attraction to donors, its fame as a high quality academic organization and a well managed organization, its integrity in dealing with foundations and on numerous other factors having to do with human psychology and the art of soliciting support.

An endowment represents the historic accumulation of philanthropic efforts as well as other historic sources of property,

such as real estate and royalty income. It is not enough to own a substantial endowment. One must know how to invest it in an optimal way, utilizing the fact that these are resources which need not be liquid and should yield a high *average* return, even if in certain years the results are less than satisfactory.

Competitive research grants come from Government funds, local government, international competition and private foundations. Here the successful institution must be on its toes 365 days per year, winning hundreds or thousands such grants in numerous competitions, based on its quality of research. The individual scholars play a significant role in this effort, while the management is the lead player in all previous items on our list.

Intellectual property is rapidly becoming an important potential source of income of high caliber scientific institutions. More about it later.

Finally, we might mention lifelong education and refresher courses for practicing professionals; popular science, culture and art lectures for the general public; enrichment for children, adults and retired people, and many other activities. All of these may provide additional income to a university, while enhancing its relations with the community. Exploiting temporarily unused real estate and initiating the development of nearby high tech industrial parks can further augment a university income.

We will return to the issues of tuition, philanthropy, endowment and intellectual property later in this presentation.

4. Diversification of Tasks

The sources of income of the modern university must be diversified and so should be its tasks. The primary tasks of the university, which were traditionally only teaching and research, must now include additional components. But before we discuss these additional components, we should emphasize that even the traditional connection between university teaching and university research is not necessarily valid in the 21st century.

Can you provide adequate university teaching without performing research? The traditional answer is negative. This is still true for "classical" academic topics such as physics or history. But the truth is that you can definitely train professionals in many

fields without performing any research. It is important to understand that this claim does not at all speak against the value of research in the same fields. Research in the fields of law, accounting, nursing, music, social work or surgery is, of course, important. But it is perfectly possible to provide first class university teaching in these fields by experts who do not perform research, while pursuing their professional careers.

So the first duty of the modern university continues to be teaching and training its students to practice as successful citizens performing a wide variety of duties and professions. Some topics require a thorough preparation for research capabilities and can be taught only by practicing researchers. However, some of the professions have a more practical flavor than the standard university topics of a century ago and the training of the practitioners may require different methods and dogmas when compared with the traditional teaching modes of the university.

When we educate scholars, a classical goal of the university, there is no need anymore to cover all the different areas of the humanities, arts and sciences because a modern university can offer a fraction of its courses via distant learning and sharing with other institutions. It is not necessary anymore to have a professor in every important field in the university, something that was necessary only a few decades ago. Many universities have not yet understood this point.

On the other hand, *it is very important for universities in the 21st century to move into multidisciplinary programs* in a very big way because there are hundreds of new professions that simply did not exist even a decade ago. Universities have to train administrators of environmental projects, they have to train experts in computerized accounting systems, they have to train nurses who specialize in MRI or CAT-scan machines. All of these examples, and numerous others, do not fall into any category that existed before, and are absolutely essential for the modern university.

Basic research continues to be primarily a function of the universities and research institutes. However, applied research plays an increasing role in the modern university and the blurring boundaries between the two make this really one task. Politicians will normally press for an emphasis on applied research, leading

to immediate fruitful results. This is, of course, an unacceptable demand, potentially leading to lower levels of research and to narrow minded choice of fields. Remember that doing only applied research is similar to demanding that all children be born at age 18. However, to insist on the absolute "purity" of research, considering applications to be below the dignity of the great scholar, is as bad as what the politicians try to enforce. It is crucial to find the correct balance between the various layers of research, ranging from the most fundamental basic and temporarily useless, to the most applicable and immediately useful research.

Applied research in the university should cover the entire road from "R" to "D". Notice that the word "Road" starts with "R" and ends with "D"; it is that entire road that has to be covered, perhaps less "D" and much more "R", but there is a certain integration which is absolutely necessary for a first-class university.

A university, which is disconnected from the social and economic problems of the society in which it functions, is an ivory tower, not an ivory lighthouse. It is the social duty of the faculty and students to contribute to such issues. This can be done in numerous ways. All that is needed is the will and the realization that this is both an obligation and a potential device leading to better understanding between the general population and the academic community.

Interface with industry is extremely important and not practiced too widely in Europe. The situation is much better in the United States. I must say that in Israel the situation is almost as good as in the United States, but still not satisfactory. Modern industry is knowledge based. Knowledge is created mostly in the educational system. A seamless contact between the two is an enormous advantage.

There should also be a much stronger integration with the rest of the educational system, from kindergarten to the end of high-school, because it is the product of that system that goes to the university and it is the products of the university who are teaching the children in that system.

Having listed all of these diversified sources of income and diversified tasks, I would like to devote my remaining comments to several specific topics from the above list: (i) Tuition and social

service, (ii) Philanthropy and endowment, (iii) Intellectual property, (iv) Funding and managing research groups and (v) The university and the rest of the educational system.

My reason for choosing these particular items is based on the recognition that, in every one of them, there is a certain important message that I wish to transmit, in some cases based on good Israeli experience and in other cases based on my own experience at the Weizmann Institute.

5. Tuition and Social Service

Our first item of a more detailed discussion is tuition. *It is morally and economically right to establish a tuition fee in the university*. It is morally right because otherwise you are transferring income from the lower economic level of society to the higher ones. It is economically right because if you get something for free you don't appreciate it, and it is very important not to allow people to spend ten years pursuing their B.A. or to provide free education to older people who are bored and want to learn something, which is absolutely adorable but there is no reason to give it for free.

Should the tuition depend on the subject? Some people say that tuition should reflect the actual cost of studies for the specific subject. This is, of course, a very big mistake. It would encourage most students to study the so called "inexpensive" subjects, such as law or humanities, drive students away from science and engineering, and create total chaos with all the multidisciplinary subjects, for which no one will be able to figure out the cost. All sorts of distortions and gimmicks would then become the norm. For these, and many other reasons, it is totally impractical and economically wrong to determine the tuition according to the field of study. The *tuition should, therefore, be the same for all students in all fields.*

Should the tuition depend on income? The student is an adult. It is perfectly legitimate for the student to decide that he or she refuses to be supported by his or her parents. The Israeli student is even older than the average student in Europe or the United States, due to the compulsory military service. I therefore believe that the tuition itself should not at all depend on the income of the student or of the student's family. We shall discuss in a minute

how to deal with students that are truly needy. The formula should therefore be very simple: there must be a tuition; it should be equal for all fields of study; *it should be equal for all students*; its level has to be the real actual per capita cost of the "least expensive" field of study, otherwise certain students will pay more than their studies cost, an unfair proposition.

In Israel, the real cost of a law student or a humanities student, study areas which are the cheapest fields in terms of cost of the university, is about 12,000 Shekels per year, or approximately 2500 Euros or Dollars. This seems a reasonable level of fees.

How do you deal with students who cannot afford this level of tuition? There is a magic formula, which I have been proposing for two decades and I simply cannot understand why it is not adopted. I strongly believe that it is applicable to all countries, it is fair and it elegantly addresses all the different relevant issues. Israel has established the "Perach" project, a wonderful tutoring project or mentoring project, in which already 30,000 students are acting as mentors and tutors to children from families of low socio-economic background. In return for working 4 hours a week with the child, the student receives a fellowship of approximately $1000. This national project is run by a very lean and efficient administration (at the Weizmann Institute).

We now propose that every student who joins such a social service project will receive half of the tuition by doing that, and every student, regardless of social service, may choose to receive half of the tuition by accepting an interest free-loan, to be returned a few years after he or she finished his/her studies. This would mean that *every student can go through the entire university period without paying one penny in cash*, but that student has to take upon himself or herself two obligations, the social obligations of the tutoring project and the economic obligation of returning the loan.

Experience shows that the vast majority of the students do not do it because their parents will pay for them, but that means that the decision is made by them, not by the university. You do not have to set up a bureaucracy that decides who is rich and who is poor, and who has property and no income and who has income and no property. You do not have to discuss which student does not want to depend on his parents, and which student is already

married with two children and the parents don't want to support him, and all such complex issues, leading to rules, which cannot be enforced. On the other hand, you can legislate that the right to join the social service project and to receive an interest free loan, is available only for a limited number of years, preventing perpetual students; only below a certain age, avoiding state subsidies to older people who study for pleasure, and only once in a lifetime for a given person.

I submit that this simple formula is economically profitable for the government, it is fair to all, it allows poor students to study without paying anything in cash and it precludes from the university people who come there just to have a good time or a nice ten-year vacation.

6. Philanthropy and Endowment

Philanthropic contributions to academic institutions are widely exercised in Israel and in the United States, but rarely in Europe. I believe that European universities have no real good future until philanthropy will penetrate the public education system in Europe. It is philanthropy that enables certain universities to do things that others cannot do. It is true the philanthropy depends on the talent of the fund raiser(s), but it first and foremost depends on the quality of the institution. The modern philanthropist is usually a very shrewd business person, who will give his or her money only to a successful organization. Such people like to "join the winners". When you seek philanthropic help for the poor and the hungry, the poorer and the hungrier you are, the more help you will get. But *philanthropy for higher education and research, is mostly given to the "winners"*, not to the "losers". The better you are, the more you will get, and the more you will get, the better you will be. Philanthropy is therefore a very important differentiating factor. It is largely a self-help mechanism. All the private American universities and all Israeli research universities and institutes heavily depend on it.

There is a give and take in modern philanthropy. *The integrity of the receiving institution is absolutely essential.* You have to deliver what you promise and you should not "sell" what you do not have. There are numerous facilities and entities that you can "sell",

so-to-speak, to donors and to foundations, thereby replacing unavailable government funding and reducing dependence on the politicians. It is difficult to achieve this, especially in a culture which does not recognize the importance of philanthropy. But it is possible and European universities must learn to do it.

Another aspect of philanthropy is the need to create an endowment. The university management must have the courage, even when life is difficult on a day to day basis, to raise money for an endowment. Future generations will all enjoy the endowment. Nothing introduces more stability to a university budget than a solid substantial endowment. It takes decades to create one, but this is why such an effort must start immediately and not be postponed.

The fact that Harvard University has a twenty billion dollar endowment is one of the main reasons why it is one of the best universities in the world. This is not due to the current president of Harvard, to any one previous president or to any other individual. It is the result of a very long history, in which generations of university leaders understood that the long range future is important and should be given priority over many short term issues. When a younger university hears this, it might say: "We cannot compete because we are only starting now". My answer is: "If you are only starting now to build an endowment, you should double and triple your efforts, rather than be discouraged. It is not easy, it is not pleasant, but it is doable".

Once you have created a respectable endowment fund, you must learn how to invest it. In this respect, the American universities are decades ahead of the European ones. There is an entire science, sometimes art, of developing a successful long range investment policy for a university endowment, taking calculated, but uncorrelated risks and securing, in the long run, a significant average return. One of the secrets of the trade is to learn to think in terms of decades, not quarters, and to protect the endowment income of the university against the fluctuations of economic upturns and downturns. This is actually a fascinating subject by itself. I do not want to get into it but it is a crucial subject for the future of the 21st century elite universities, for which a strong endowment is a necessity.

7. Intellectual Property

Intellectual property is an entirely different story. Everybody knows that the university makes discoveries and creates knowledge. Everybody knows that you can patent your newly acquired knowledge in certain cases, and everybody knows that theoretically you can license the patent and enjoy the royalties. In real life it is much more difficult to do so. In order to accomplish good results in this area, the university must decide that this is one of its major goals. Such a decision should not divert the university from its emphasis on basic research. This sounds like a self-contradiction, but it can be done. Actually, *the better your basic research is, the better off you are in terms of creating intellectual property*, which can be financially exploited.

The university must then negotiate this tight rope: On one hand you declare that you will not move away from the goals of the university. On the other hand, if you "stumble" on something, which can be patented and exploited, by all mean do it. The only way to succeed in such a venture is to create a permanent apparatus, within the university, dealing with these issues. It must be controlled by scientists but managed, at the day to day level, by professional business people. This is not at all a simple matter. The peaceful co-existence of commercialization and basic research can only be guaranteed by a resolute academic leadership. It must be headed by a vice-president or by an office holder, who reports directly to the chief executive of the institution. It is imperative that the academic institution devote substantial resources to protecting its intellectual property against any attempts of business interests, large corporations and others, to cheat the institution out of its rights, royalties and equity.

It is also very crucial, and in this respects academic institutions often err, to also fight against those faculty members that take the intellectual property of the Institution and run away with it somewhere else. This is extremely difficult to control, but if you insist on it and if you persevere, at the end of the day it is to the benefit of the faculty member as well to the benefit of the institution. For instance, do not license a patent when it is issued, even if some industry wants it and even if your faculty member

pressures you to do it. You may be better off developing it in your laboratories, as long as it is still at a level requiring $50,000 or $100,000 per year, which you can afford as a good scientific institution. Only when the idea is further developed you should license it, turning the relatively small investment you made, into a much better deal. This does not take anything away from your scientific level.

It is also important to understand that, in the modern high-tech world, intellectual property is traded against a large variety of material benefits. Royalties are only one item in a long list. There is also equity in start-up companies, options, sublicensing, consulting, cross utilization of patents and more. All of these pure business issues must be understood and exploited by the university, if it wants to play in the field of benefiting from its intellectual property.

One can talk for hours on this subject, but here I am in the happy position of not having to prove the case, because the little Weizmann Institute, which is definitely not as good as Stanford, Harvard, or Princeton, is making more money on royalties per year than all three combined. This happened by being innovative, enforcing rules, pursuing a policy along the above lines and being lucky, but without any damage to basic research.

The success of the Weizmann Institute in these matters is not a claim about our scientific excellence. We are pretty good scientifically, but we are not Princeton, Harvard or Stanford. We have no illusions. But by pursuing such a policy without moving away from being an institute of basic research, we can do it, and I believe that in the future, scientific research will depend very much on this kind of income and on this kind of management performance. The sooner universities learn how to do it, the sooner it will happen.

8. The Research Scientist as an Entrepreneur

Basic research can be supported by numerous sources. In each country there are various government funding agencies offering research grants for various fields, different level of applicability, different purposes, fellowships for postdoctoral fellows and graduate students, grants for young scientists, grants for heavy

scientific equipment, specialized medical or agricultural grants, etc. There are also international grants such as the EU grants or the NIH grants. There are sources of internal research support within universities. There are private foundations who declare competitions for research support.

The individual research group should act almost like a start-up company, not in the sense of trying to make a profit, but in the sense of being entrepreneurial. The basic research group leader has to try to get resources from all possible directions: from internal resources in his university, from philanthropic sources, from industrial sources, from regional and national and international sources.

Experience shows that first class scientists can get support from all of these sources. They enjoy a rich menu of support and they can then really do fantastic research. This is the case for the top scientific groups in the United States, and there are some groups in Israel which have these features. In Europe, the normal mechanisms of government support do not encourage this kind of entrepreneurship, although here and there you do find outstanding scientists who succeeded in creating this wide base of support. Europe needs much more of this.

It is very important that scientists involved in basic research will take risks, very serious risks, and this should be encouraged by the management of the relevant institution. It is also imperative that basic research, even in the most remote university, must always be judged by international standards, never by the local standards.

Basic research is a worldwide activity, recognizing no national or regional boundaries. It is a totally open arena of international competition. *It is unjustified for anyone to support low level basic research*. That is why the diversification of sources of support, the international standards and the entrepreneurial spirit are so important.

9. The University and Pre-University Education

The educational system in every country is a pyramid. It starts with nursery school and kindergarten and it ends with the Ph.D., unless we include in it lifelong adult education. The academic system has to train the teachers and the teachers are the key to the

success or failure of the entire educational system. In Israel, we have teaching colleges that are doing reasonable work in teacher training. But our universities are failing miserably in training school teachers. What the universities do is either to train university graduates in education, who learn how to perform research of dubious value and to write papers about education, or train university graduates in science or humanities who learn physics or history or biology, but do not learn how to teach physics or history or biology.

The universities should also do much more for in-service training of existing teachers. The world is changing. The young children have a wealth of information and knowledge literally at their fingertips, touching the computer keyboard or mouse. The teachers must be the guides in this exciting knowledge adventure. If they studied to become a teacher a decade or two ago, they must be constantly updated. Only the academic system can do this.

Universities must also contribute to extra-curricular activities for children and to curriculum development in the schools. In that respect Israel is actually one of the leaders in the world and we have a very wide variety of programs along these lines in all our universities.

Education is too important to be left to the educators. More than ever, it touches the life of every citizen and the future of every country in a very profound way. The entire academic system must therefore to be heavily involved in it.

10. Time Scales

Finally we have the problem of time. The time-scale of everything I talked about, education, basic research, social problem, industry development, schools, is at least ten to twenty years. The horizon of the politician is the next election, and if the next election is four years away – we are lucky. In Israel we were recently having even more frequent elections.

The result of this is that the politician is encouraged to do one of two things, both of which are wrong: either change nothing, or initiate a total reform and reorganization every year-and-a-half. I am not even sure which of these two evils is worse; probably a frequent total reform is even worse than doing nothing. The only

way for the academic system to cope with these pressures is to initiate its own permanent self evaluation, constant revision and nonstop change. This should be done, in spite of the government, but in collaboration with it, always trying to remain one step ahead of the politicians.

If the modern university contributes to the rest of the educational system, collaborates successfully with industry, establishes a wise and fair tuition system, exploits intellectual property, enjoys international reputation in research, solicit substantial philanthropic help and helps solve social problems in layers of society that are not normally associated with the university, it can truly become an ivory lighthouse. It may even be, God forbid, popular with the politicians.

Even if I am wrong in half of what I have said here, *the university of the 21st century is a very different entity from the university of the past*. Philanthropy, multi-disciplinary studies, distance learning, intellectual property, academic teaching without research, social contributions and many other issues are giving a whole new twist to the modern university. We had better learn how to deal with them.

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Q: Uri Aviram

First of all I tremendously enjoyed your presentation, and thank you. Now, you have mentioned something about the professional academic training within the 21st century research universities. I am a social scientist, all my life involved in social welfare and professional school of social work, and we have been traditionally on the boundaries of research universities, and I would like to ask you whether you would care to comment about the place of professional schools within the higher education system and how we create a possibility for them, creativity, research and productivity and contributing to society?

A:

I think I briefly touched upon this. First of all professional schools are extremely important because the professions which are being

taught in them are extremely important. It is very important to train social workers or school teachers or physical therapists.

The one comment that I made and which I will repeat, is this. In every one of these professions there is place for research, but research in these professions does not occupy the same place that it does in history or in physics. I simply cannot imagine university teaching of physics or history without research. But I can easily imagine the training of good social workers, the training of good surgeons, the training of pianists in a music academy and the training of lawyers, by teachers, some of whom do not perform research.

Now this last sentence involves an enormous amount of money for the system of higher education. Imagine a university school of education, training future educators, while some of the professors conduct research, but others do not. The cost of such a school will be very much lower than today's school of education, without necessarily lowering the level of the graduating students. The same applies to law school, business school, etc.

I believe that we should also have a diversification within the universities, between the different schools and between the different categories of fields and professions. But the professional schools themselves are extremely important. Where would we get all of the necessary professionals if we do not train them, and we want them to be trained in an excellent way. We need social workers in Israel, more than ever. We need to train them and it can only be done by the university. But this should not preclude changes in some of our old dogmas, or “sacred cows”.

SESSION IV

Patterns of Diversification of Higher Education Systems

MASS HIGHER EDUCATION AND THE RESEARCH UNIVERSITY
A Post-modern Revival of Ockham's Razor

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Introduction

It is, surely, one of the more interesting paradoxes of the moment that as Europe's universities are struggling to come to grips with being responsive to 'the market' – that is, to the myriad interests, economic, technological and social, individual and collective – which lie beyond the groves of academe, they are also having to take on board an unprecedented degree of homogeneity as European integration begins to bear down on the higher education systems of the now 25. Diversity vs. homogeneity is, of course, a classic theme in higher education policy, just as it has long been a staple in the study of higher education from a comparative perspective. But, I would venture to suggest, rare are the times when both have coexisted and when their pull in contrary directions has been so strong above all at institutional level as they are at present.

These two contrary dynamics are reflected in the growing fragmentation of institutional identity in higher education, a process that, if one looks at it carefully, is being countered by a quest for a re-stated self-identity by the universities themselves. In part, this quest is a form of institutional response to secure a particular niche within the market of services which higher education offers to a supposedly more discriminating – and very certainly more diverse – student estate and to other 'stakeholders'. Thus, as we look around Europe's higher education landscape, we see a host of new labels, which describe universities. There are entrepreneurial universities, service universities, responsive universities, and at the less creditable level, 'European" universities, Humanitarian universities and, as a final

monument to Monsieur de La Palice, 'Learning' universities. Each supposedly represents, at least to its own satisfaction, a unique combination of vaguely guessable offerings, emphases and orientations, sometimes defined vis a vis students, sometimes in relation to the particular range of occupations for which it trains in the labour market or the services it may render those able to pay. There are other descriptors of a rather more useful nature, corporate universities – which are little more than an elegant term given to firm-based training – Open, Distance-Teaching and Virtual Universities. These latter are far more helpful. They describe the means of delivery, the pedagogy, the mode of access or student attendance. Even so, taken together, these self-descriptors suggest that the boundaries of institutional form seem to be fraying at the edges. (Neave, 2004a)

William of Ockham and the Evaluative State

Now the question this situation poses is whether these categories are sub variants of a type that still remains visible and intact: to wit, the University. Or whether such sub types are not in themselves new species. (Varia, in press) In short, when we view the landscape of higher education in Europe, we are faced with the question as to whether our post modern version of the once singular University is not in blatant contradiction with the principle stated more than half a millennium ago by the medieval schoolman, William of Ockham '*Entia non sunt multiplicanda sine neccessitate*'. "Categories should not be multiplied without good reason." Whether medieval William would have seen niche marketing as reason sufficient for such licentious proliferation and inventiveness, must remain unanswered.

That universities seek to differentiate themselves is not of course new. It is an integral part of what the American sociologist, Burton Clark, has vividly set down as the struggle for the 'gold coin of academic excellence', which lies at the heart of the advancement of knowledge and the gaining of repute and standing in academia. (Clark, 1983, p. 270) What is new however, are the reasons that bolster this recent process of self-differentiation.

Self-differentiation has to do with institutional image-building, self-marketing. And this in turn responds to what may be seen as one of the consequences of the rise in Europe of the Evaluative State, itself

represented, though by no means universally so, in concrete terms in the shape of public differentiation, through publicly available performance ratings, League Tables, rankings, ratings and the plethora of agencies encharged with these judgemental activities. Agreed, not all governments subscribe wholly to this particular form of leverage. Institutional evaluation in Sweden, for instance, foreswore League Tables and rankings from the start, though it does provide information to allow individuals to exercise choice. (HSV, 2003) Nor, by and large, did mainland administrations go so far as to link funding to institutional performance as did the United Kingdom. That in no way diminishes the fact that the rise of the 'Evaluative State' has been the outstanding feature of European higher education policy throughout the course of the previous decade, though in certain instances – Britain, France and the Netherlands, for example – the origins of this shift in the mode of strategic coordination were already visible towards the late Eighties. (Neave, 2004b)

In effect, the Evaluative State brought firmly into the public domain that private knowledge which Europe's universities have always possessed about themselves and their fellows. The Evaluative State, however, by placing academic competition and self-knowledge into the public arena accomplished four things of great consequence. First, it placed the competitive principle at the heart of the new relationship between government and higher education, itself built around the notion of 'remote steering' and conditional financing. Second, it did away with that long-preserved legal fiction, widely held in Continental Europe, that all universities were on a formal footing of equality in condition and status. Third, it erected the universities' private knowledge about themselves into a prime instrument of public policy. Finally, and perhaps most important of all, the Evaluative State re-defined what one might call 'the perennity of institutional standing' by making provision for institutional evaluation and assessment regularly to be repeated. (Scheele, Maassen & Westerheijden, 1997) In short, public standing acquired was very far from being the same thing as public reputation guaranteed *ad vitam aeternam*. Indeed, competition can only truly take root where absence of certainty is ensured.

Mass Higher Education and Differentiation as Policy

If we look at these two developments – at public performance related differentiation on the one hand and at self-differentiation on the other[1] – from a rather longer term perspective within the Western European context, we see that in fact they represent the second and third stage in a rather broader historic process of **differentiation as policy** that coincided almost perfectly with the decision which, forty years ago, European governments recognised as unavoidable; namely to move beyond elite to mass higher education. This paper tracks through these three stages in the process of differentiation. It does so from a particular focus. This focus lies upon the Research Training system. The reason for this is two fold. First, I believe it is an issue of no less concern to you than it is to us. And second, for the obvious reason that, as higher education in Western Europe edges beyond the mass stage of its development and is groping its way towards what Martin Trow three decades ago identified and defined as the 'universal stage' (Trow, 1973) so the place of the Research Training System becomes a matter of considerable delicacy, and very especially so with the looming shape of the Knowledge Economy where the product is ideas and the prime capital, Human capital, lies before us.

Tribes, Territories and John Milton

In sketching out trends and developments in Western Europe, I am all too well aware of venturing on the territory of another academic tribe whose prime interest this is and whose focus this has been for many decades. I am also well aware that amongst an audience such as this the perspective I have – that of an historian with an occasional penchant for policy studies – is not necessarily in exact concordance with those who dwell in the realms of Science and Technology policy and perhaps even less with those whose concern lies with the Advanced Reaches of the same! To be candid, it is a situation Miltonian in the extreme. I can only hope I may benefit from the forbearance of the Angels as I rush ahead.

[1] I am tempted to borrow a genial title from a good friend and call them the "private" and the "public" lives of institutional differentiation cf Martin Trow, [1979] "The Public and Private Lives of Higher Education", *Minerva*, vol. 1 No.1.

The massification of higher education posed a number of crucial issues in respect of the Research and Research Training System. And let me say, before going any further, that I conceive this particular structure as being that part which falls within the organisational limits of higher education stricto sensu. I make this rider for the obvious reason that here too the functional boundary between the research base in higher education, government and industry is far more porous today than ever it was.

If we look at the range of solutions, which governments opted for to deal with the onset of massification in Western Europe of the 60s and 70s, very few directly posed issues that concerned the Research Training System. Rather, the issues which emerged and which did bear upon the latter were largely the consequences of many of the assumptions made about system differentiation at the undergraduate level. Certainly, such a sectoral differentiation made implicit assumptions that had indirect bearing on the Research Training System – prime amongst them, that the university stricto sensu should continue to exercise the monopoly over training for research.

First Phase in Differentiation as Policy: sectoral segmentation

Generally speaking, the European response to massification was to raise up to higher education level establishments, which had either formed part of upper secondary education or by creating a new types of establishment – short cycle higher education. The non university sector was distinguished by two features: it was explicitly engaged to feed the private sector labour market – as opposed to the historic task of the universities for public service; its degrees were held to be terminal. They did not qualify their holder to move on and train for research. Such a pattern was to be seen in Britain with the Polytechnics, in the German Fachhochschulen and the French Instituts Universitaires de Technologie. In effect, this was a policy of sectoral differentiation between short cycle vocational training and long cycle, research based training in the university. This, in the minds of planners, was designed to cater for 'first generation' students whose ambitions were held to be more occupationally specific than their university counterparts. It was a policy of continuity amidst change. It injected into higher education a basic principle that had long governed secondary schooling; though ironically just at the time when

this same principle came under severe pressure at secondary level itself. Namely, the creation of parallel tracked school types along lines distressingly Platonic. It was, in short, a differentiation based on task – short-term response to the labour market, student characteristics and duration, just as it had been in the secondary school system.

Yet, some of the assumptions that underlay the first phase in Europe's policy of differentiation - differentiation by sector – were woefully unsubstantiated. One was that direct linkage to the labour market would serve to deflect the bulk of rising student demand away from the universities. With the possible exception of the UK, where universities operated a *numerus clausus* for all Faculties, this was not born out. On the contrary, the implicit policy to 'protect the gold standard' and thus indirectly the Research Training system, served merely to confirm the university as prime goal – above all in systems such as France and Germany where the possession of the upper secondary school leaving certificate guaranteed its holder a place in higher education, though not necessarily at the University nor the faculty of his choice. There was, however, a second miscalculation on the part of governments. From a strategic perspective, it was a grievous oversight, because it had to do with academic identity and very particularly because many of those who took up posts in the short cycle sector had been through the university and whose professional self-image had been moulded by both disciplinary and institutional norms as operant in the university. For them, the absence of a 'research mission' in the institution's overall mandate, was to condemn them to being 'beyond the Pale". And the press to be able to 'do research' was a powerful agent in that process of perverse institutional development variously interpreted as "academic drift", 'epistemic drift' or institutional mimetism. (Meek, Goedegebuure, Kivinnen & Rinne, 1996)

The Ghost of Wilhelm von Humboldt invoked

There are, of course, interesting aspects to the debate between the non- university sector and government during this phase in the saga of system differentiation. And not the least amongst them the regular invocation of a species of Neo-Humboldtianism – the wish to bring together once again the marriage between teaching and research that governments and massification appeared to have put asunder. In its

way, the special pleading of the non university sector in Western Europe (Neave, 1978, Doumenc & Gilly, 1978; appears as a reverse image of that notion which seems currently to be going the rounds in the United States – namely, the issue of the 'balanced' University, balanced in its commitment to teaching and research, but with this difference: in Europe of the Seventies, the imbalance, at least as viewed by the non university sector, lay in the absence of research, not in the problems associated with the desultory nature of teaching by academic staff whose being is engaged by research.

Still, the backwash from the first phase of structural differentiation brought up a number of crucial issues. In what type of establishment should research training be located? Is the Humboldtian construct of research as the basis for teaching and learning to be preserved? Can it be preserved? And if so, under what conditions? Are these conditions available to the typical student in the typical establishment of higher education? Or, supposing they are to be preserved, are the conditions that permit the retention of the Humboldtian nexus to be found only in elite establishments? Is there, as UK authorities have sought to argue, an intermediary construct – scholarship, but not research – as an acceptable Humboldtian Ersatz? Or should we, as a good friend has recently suggested, bid a fond farewell to Wilhelm Freiherr von Humboldt and concentrate on raising excellence to newer, but in fewer peaks? (Nybom, 2003; Nybom, in press)

Differentiation as Policy - the Second Phase: differentiation within sectors

These questions remain evergreen. Yet, they began to receive some answers in the course of the second phase of differentiation, which in Western Europe emerged in the course of the Eighties. Whereas the first phase had focused on sectoral differentiation, the second moved deeper into the fabric of higher education into the area of institutional differentiation within sectors. It was, however, a strategy at two levels, one of which concentrated on the undergraduate dimension, and the second with great vigour marshalled its efforts directly to bear on the Research Training System.

I shall not go into the broader background of the second phase. Suffice it to say that the crisis in public spending that spread over the European economy from the early Eighties also coincided with the

second wave of student numbers piling into higher education – and at a rate which equalled where it did not exceed the first wave of the mid Sixties. Thus, governments sought new ways to make efficiency gains, to force higher education to face up to the consequences of what was then presented as 'technology-lead change' and to induce higher education to adjust to the shifts in occupational structure which, as we know today, were the early signs of what was to emerge in a fuller form of the Knowledge Economy. The second phase was also accompanied by radical shifts in the funding base which moved from input funding to output funding and last but not least by the putting in place of complex systems of evaluative agencies and procedures to monitor progress made. Theirs was a variable task. Sometimes, as in the case of France and the Netherlands, the purpose of the evaluative engine was to encourage institutional initiative and to speed up the pace of change; others, Sweden and Britain being not a-typical, to strengthen the ties of accountability and to make available that information which would permit students, now defined as 'consumers' the means of choosing course and institution on a more rational and objective basis.

The Rise of the "Research University": a concept new and vexatious

As with most human endeavour, change in terminology often provides a most appropriate summary to the complexities that change involves. During the course of the Eighties, a redundancy, hitherto puzzling, if not grossly vexatious to European ears, acquired currency. That institutional differentiation had become part of official policy was evident in the rising fortunes of the so-called 'Research University'. This term was puzzling for the simple reason that the accepted European understanding of the term "University" was precisely an establishment that undertook research and research training up to doctoral level. Those that did not undertake research and doctoral level training were *eo ipso* not universities. They were something else - Higher Schools, Higher Vocational Training establishments, Grandes Ecoles or even in Higher Education outside the university (HOBU). And, as we have seen, it had been a point of contention during the first phase of the strategy of differentiation. Yet, by its very nature, the term "Research University" implied that there were indeed universities, which either did not undertake

research, or somehow were the children of a lesser God. From there to recognising that higher education policy in Western Europe moved swiftly over the second phase and to institutional differentiation, to the protection of excellence and very particularly the Research Training system, was a short step indeed.

Dutch Initiatives

One of the penchants of the historically inclined is to hunt for the origins of this process. They are not difficult to find, though they tend to benefit from a goodly dose of hindsight. The first example of government moves to sunder the Humboldtian nexus within the university occurred in the Netherlands with the proposal, put out as a government White Paper in 1981 and implemented four years later, to reduce the length of the first university degree – the doctorandus - from five to four years.[2] (Bieleveldt, 1989) The saving of time, expense and hopefully the gains in throughput efficiency were to be made by excising that element of the first degree programme given over to the introduction to research and research methods.

If, to some, this initiative may be interpreted as building a protective barrier within the European university from the pressures of mass higher education at the undergraduate level, there were other considerations of a more weighty nature which called for radical re-definition in the purpose of the PhD – or its equivalent. Most significant was the 'uncoupling' of the PhD from its prime historic purpose, which was to ensure the renewal and quality of the Academic Estate itself. (Blieklie & Hostaker, 2004, p.229) In the setting of technology induced change, the main strategic task that preoccupied governments Dutch, British and French was how to re-assign the Research Training System to other tasks, and very particularly those fields associated with the rising Knowledge Economy.

[2] At the risk of describing one qualification which may appear exotic to the Anglo Saxon world in terms of another no less exotic, the Dutch doctorandus was roughly on a par with the Scottish MA (Hons) which is a four year degree in the Humanities and Social Sciences. As a matter of record, the purpose of this measure was not born out. Non-completion rates remained obdurately unchanging. (Bieleveldt, 1989)

The Dutch began to strengthen internal differentiation along lines which bore a certain resemblance to the undergraduate/graduate split found in Britain and the USA by shifting the element given over to research training off from the first university degree. Indeed, internal differentiation was explicit in the term used to describe this process and the legislation that accompanied it – the Two Phase Law. (Bieleveldt, 1988) Elsewhere, the drive towards reinforcing internal differentiation within the university sector took different forms and concentrated on different levels. In France, for instance, the first moves in this direction began with the amalgamation of the four separate types of doctorate into one, a decision which, taken in 1987, (Neave, 1993) was justified in the name of international competition and, significantly, proclaimed as France's equivalent to what was described as 'the Anglo Saxon' PhD. In the United Kingdom, the drive to differentiation took a different course, for the obvious reason that the marked distinction between graduate and undergraduate studies was a distinction almost beyond the memory of Man and the PhD had been in place since the early 1920s. (Simpson, 1983) In the United Kingdom, unlike either France or the Netherlands, institutional differentiation within the university sector had long figured as a feature in academic life as well as in the many novels that portrayed the subtle social horrors that followed from such differences. Reinforcing differentiation in the UK initially steered a very different course, though it is arguable that this too was taken up later by both the Netherlands and France, the former with the introduction of conditional financing, (de Weert, 2004) the second in the shape of 'contractualisation' (Chevailler, 2004) and the reform of student engagement and indeed the reshaping of the Research Training System itself.

The United Kingdom, for its part, engaged upon an unprecedented and comprehensive exercise of norm-setting, standardisation and the laying down of what amounted to a national framework for regulating the Research Training system and that in considerable detail. The award of studentships funded by Research Councils was made subject to national norms applied to completion rates, a stipulation that carried penalty in the event of failure. Norms for time for completion and thus the duration of the PhD were also introduced, as were formal conditions for training and the reduction

of time spent on thesis writing. (Kogan & Henckel, 1994) The introduction of formal courses as part of PhD training, together with putting in place of the Master's degree as a species of screening device, preliminary to embarking on the doctoral programme, gave an added protection to the outer-bounds of the Research Training system.

The Triumph of the Natural Science Paradigm

If we look at these reforms from a broader perspective, three aspects stand out. The first of these is a species of standardisation around the norms and practices of the natural sciences. (Blieklie & Hostaker, 2004 pp. 221-236) This is not surprising given the fact that at post-graduate level, by far the overwhelming majority of students fall into this domain. Given that at undergraduate level, around two thirds of students fall within the Humanities and Social Sciences, it is not out of place to note that mass higher education appears to lend another and an additional dimension to Charles Snow's notion of the Two Cultures – the undergraduate world where the Humanities and Social Sciences predominate and the Research Training system where the House of Science reigns in splendour.

Doctoral Students by broad subject areas: UK NL
1994/5 - 2001/2 Full and Part Time.

	1994-5		2001-2	
	UK	NL	UK	NL
Exact, Engineering, Medical sciences	62.9	66.9	60.0	69.9
Social Sciences	15.3	22.9	16.4	20.7
Humanities	21.8	10.2	23.5	9.7
N=	86,960	4,914	106,995	5,632

Source Taylor 2004; de Weert 2004.

The second feature lay in the fact that if standardisation and the criteria for shaping the Research Training system within the nation now rested on a natural science model, that model in turn drew heavily on the United States as the 'referential system'. (Neave, 1998) Indeed, many of those instrumental in urging reform forward had themselves either studied or researched there.

Aping Others with Circumspection: the European edition of the Graduate School

Nowhere is this influence clearer than in the development of the European equivalent of the Graduate School, though like most emulations it has mutated considerably from its template to meet the specificities of national circumstance. The thrust of institutional differentiation sought first of all to clarify the boundaries between first degree and advanced learning. Second, it laid down new standards and criteria that determined whether individuals and institutions were eligible for public support in research training. There was, however, a third dimension to this process. This involved 'concentrating excellence'. More particularly, this third dimension entailed the creation of a new organisational unit within the university and with it, the laying down a new series of articulations between universities and Research Councils on the one hand, and through the research training experience itself, with industry and the cutting edge sectors of the economy on the other. Clearly, as the heartland of a re-vitalised research training system, these units also have a clear pedagogic mission. Though nowhere stated in such terms, their educational purpose was in effect to shift doctoral training from what some of our colleagues have termed 'Mode 1' in academic work towards Mode 2, (Gibbons, Nowotny, Limoges, Scott & Trow, 1993) essentially bringing an end the historic apprenticeship model – sometimes accompanied by solitude and self- discovery – and putting in its place formal course requirements, explicit conditions of supervision, setting out formal and contractual terms of research student 'employment', and, no less important, a pedagogy based on collective effort in the place of the individual 'rite de passage' that tended to prevail in the Humanities.

Common Features

If this new institutional form draws inspiration from the American Graduate School, it differs in several respects. The feature common to the Dutch Onderzoeksschoolen, the German Graduierten Kolleg and the French Ecole doctorale is precisely that they are tied into doctoral level training. In this sense, their constituency is more restricted than their American predecessor. They are more narrowly focused in another sense, too. Whilst all three versions stress the virtues of cross-disciplinary fertilisation and collaboration, the European counterpart of the American Graduate School tends to possess a closer alignment with disciplines. From an imagined American perspective, they may be seen as disciplinary defined sub-sets with the broader concept of the Graduate School. Thus, for instance, in the case of the German Graduierten Kollegen which numbered some 283 in 2003, (Hüfner, 2004) just under 30 percent fall in the domain of the Social Sciences and Humanities, a further 30 percent in the areas of Science and Mathematics, 11 percent in Engineering and Computer Science, with Medicine and Biology accounting for 29.3 percent.

Very clearly, within the setting of the European mass university, they are elite elements, specifically tailored for and concentrating wholly on, the last stage of Research training – the doctorate. Nor is the training they provide solely geared towards fundamental research. Their mission as the Dutch documentation shows, is to provide a stimulating curriculum for the aspirant researcher in a specific subject field which also includes elements of professional practice and application. Thus whilst both the French Ecole doctorales and the Dutch Onderzoeksschoolen concentrate doctoral training into a single organisational locus, they also entail a greater diversity in curricular content compared to the 'apprenticeship' model of training for research which they were designed to supersede. (De Weert, 2004, p.93)

Differences

Not surprisingly, when scanning across all three 'Schools' one finds interesting differences. In the Netherlands, ties between Research Schools, and in Germany between Graduate Colleges and Research Councils are clear. The Dutch Research Schools, for instance, are accredited by the Royal Dutch Academy of Sciences. The German

Graduate Colleges were set up and funded under the aegis of the Deutsche Forschungsgemeinschaft. In France, by contrast, coordination passes through the Ministry of Education, Science and Research rather than through independent Research Councils. There are differences in emphasis about relations with external stakeholders, just as there are in the perceived condition of these new bodies. Thus, in France with some 300 Ecoles doctorales currently in place, particular weight is placed on developing links with outside 'partnerships', partly as a way of generating additional revenue into the individual school and thus increase its attraction by being able to offer additional funding to students. And the provision of additional support is seen as a *conditio sine qua non* to draw in the 'better student'. (Lemerle, 2004) It is a case of 'doing well by doing good' since ties with cutting edge firms and often the work placement they provide, are held to confer a considerable advantage when the time comes for students to seek a job. Nevertheless, the French Ecole doctorale is set apart from its Dutch and German counterparts in one respect. They have a four-year mandate, after which they are evaluated and their mandate renegotiated as part of the overall process of contractualisation that now governs both funding and the ties between the French administration and universities generally. (Chevailler, 2004) It is based on a four-year cycle. A neater example of undermining the perennity of institutional standing, one could not possibly wish for!

"Interconnectedness" and the International Dimension

Seen from outside Europe, one of the more interesting features of all three versions of Research School lies – to use a term rooted in the new Technospeak – in their 'interconnectedness'. Interconnectedness has two elements to it: on the one hand, cross-institutional within the national system of higher education and, on the other, the specific commitment for exchange and linkages across frontiers.

Some, not without justification, will point out that the international flow of knowledge and exchange have been the foundations of the House of Science and, if rarer in the Republic of Letters, is not wholly unknown even at research student level. Indeed, the thrust of policy of the European Union for more than a decade and a half – since the creation of the ERASMUS programmed in 1987 (Maiworm &Teichler,

1994; Teichler, 2002) - has been to encourage cross country collaboration and mobility amongst both students and staff. More recently, the collective mind of European Ministers responsible for higher education has focused specifically on the place of the Research Training System in European integration. Training at doctoral level was brought onto the European agenda at the Prague meeting in May 2003 and work is currently in hand to draw up formal definitions within the European Research Area to regulate 'researcher status'.

Viewed from this perspective, the European Doctoral School is not simply a new organisational form to deal with national concerns. It is also a key instrument for building the European Research Area, now actively under construction. And, no less important, the European Doctoral School has another purpose. It serves as the operational vehicle to attract students from abroad – one of the goals set down in the Bologna Declaration, signed by some 29 European States in June 1999. (van der Wende, 2000) The Doctoral School represents then, Europe's response to the world-wide competition for talent that stands at the heart of Knowledge Economy. To make a lurid mix of metaphors, in the War for Jenkins' Brain, this new organisational form stands – literally - as the cutting instrument![3]

Organisational Forms networked

The role of the European Doctoral Schools as nodal points in networks of knowledge exchange both between nations and within nations, has shaped both structure and organisation. Thus, for instance, whilst each Dutch Research Schools has a physical location and an administrative basis in one particular university, their students and academic participants may be drawn from across the country. Such

[3] This is an obscure allusion and deserves a little clarification. The War of Jenkins' Ear was a minor episode in Anglo Spanish relations during the 18th century. Captain Jenkins, a merchant marine officer, fell foul of the Authorities when trading with the Spanish Main – today's Latin America, in all likelihood, Venezuela. The Captain's intemperate behaviour resulted in his having an ear hewn off in a scuffle with the local Customs Service. Taking this as an affront to the national honour, Britain declared war. The conflict lasted on and off for some three years and was inscribed in the footnotes of history as "The War of Jenkins' Ear". Today, in the so-called Age of Globalisation, the stakes – like the organs concerned – entail somewhat higher functions.

networking has obvious advantages in scale of operation, in the range of expertise that may be brought to bear, both of which are essential to providing a more stimulating learning environment as well as a broader range of professional experience than if confined to one institution. Similar provision is in-built into the French doctoral schools. In Germany, some 28 of the Graduierten Kollegen have special links to structured doctoral training programmes in France and the Netherlands. (Hüfner, 2004) In short, Europe's Doctoral Schools are the new seed plots for building up the culture of excellence – which is not quite the same thing as the culture of quality, though the former starts from there. In effect, the drive to excellence is no longer wholly dependent either on a single university, or *a fortiori* on its staff. With its explicit commitment to 'networking' as a central feature, achievement of a 'critical mass' – and the gains in performance and achievement that are held to flow from it – are no longer wholly the function of one single establishment. The impact of the Doctoral School, its performance and achievement will, it is hoped, be greater than the sum of the individual partners.

Tensions within: Strife within the Faculties

Whatever their potential – and since the European Doctoral School is a recent development, starting in 1998 in France and with a similar chronology in the Netherlands and Germany – this has yet to be investigated more fully, they are innovatory. Like most innovations, they are not always looked upon with a gladsome eye. In the first place, where the Faculty structure is still in place, as it is in both Germany and the Netherlands, though not in France which moved over to a slightly different alignment, based on Units of Research and Training (Unités de Formation et de Recherche UFR) tensions exist between Faculties and Doctoral Schools. Foremost amongst them is the enduring issue of power and influence. For whilst Research Schools are disciplinary aligned, they do not wholly follow the alignment within the more traditional Faculties. Furthermore, they are very often seen as breaking out or hiving Research Training off as a separate function – an elite within the Faculty, with the attendant difficulties as to whether it is the tail of the doctoral school that ought to wag the Faculty dog in determining research priorities. (De Weert, 2004)

This is not the only cause of tension. If the tribes of academia are supremely sensitive to questions of intellectual territory, they are no less so over the question of boundaries. (Becher, 1989) Where is the boundary between the Doctoral School and first degree to be placed – after the Master's degree? Or before it? The British solution to this is clear. The Master's degree is a preliminary stage where formal induction to the PhD takes place. It acts as a point of articulation. In France, prior to the reforms introduced in 2002 as part of the Nation's adjustment to the European standardisation in study duration associated with the Bologna Process, the boundary between first degree and the Research Training System was less a point of articulation so much as a 'zone of articulation'. (Neave, 1993) Screening took place five years after entry to university with admission to the *Diplôme d'Études Approfondies*, which in turn was filtered by an equivalent of the Master's level (*Maîtrise*). Effectively, French doctoral schools inherited the 'zone of articulation' – a species of selection in depth.

Articulation: the central point

Where the point of articulation is to be placed becomes a matter of concern and very especially with the introduction of the Bologna model. For whilst the Bologna model provides for the Master's level to be spread across one or two years, the issue is posed whether the Master's level itself should remain together with responsibility for the first degree within the purlieu of Faculties. Or whether, for example, the Master's level should not come under the responsibility of the Research Training System, and thus migrate towards the doctoral school. A third possibility exists and currently generates much heat in Germany, namely, whether the Graduate College should not take both under its wing. (Hüfner, 2004)

The argument often made in favour of bringing the Master's level into the Doctoral School is that it makes the identification of early developing talent easier. It may well be so. But the fundamental issue is deeper. In effect, whatever solution adopted involves a very clear and even further horizontal stratification between Faculties of teaching and Faculties of research and this, in turn brings us back to the crux of the problem - how to reconcile the mass university at undergraduate level with the strategic centrality of the Research

University which draws its prime mission and identity from beyond the graduate level.

If this problem is currently shared both by the United States, by Europe, (and I suspect by Israel as well) each faces this generic issue from a very different starting point. In the United States, the issue as I understand it, is how to restore the balance in favour of teaching at undergraduate level in the research university. In Europe, it is how to protect and delineate the Research Training system in a mass university, which has, essentially, grown up around the teaching function. As has been pointed out earlier, the emphasis during the first stage of differentiation by policy put massification in train by elevating establishments, essentially devoted to teaching. In Europe, the problems began not with how to expand the teaching university so much as how formally to organise and protect the Research Training system, to define its boundaries, to decide where they should be located: a ticklish issue indeed given that the historic identity of the Academic Estate in Europe, as I argued earlier, turned around a neo Humboldtian credo which paid reverence to the idea if not always to the reality, of academic identity involving responsibility for both.

If the fight in the United States is how to strengthen teaching, the issue in Western Europe is first, who should NOT "do research" in the university? Second, should 'research training' be equated **only** with doctoral programmes stricto sensu? If this is the case, what is to be the status of the Master's degree? Is it to be a species of *hors d'oeuvre* – a period of formal training, preliminary to tackling the true *piece de résistance*, that is, direct engagement in researching for a doctoral thesis? Is the Masters degree to be the crowning glory of the teaching domain? Or merely the humble start of induction and initiation to the kingdom of research?

Articulation and Income Generation

It is no easy decision, if only for the fact that whatever course is chosen will entail drastic revisions to the identity and self-perception of the Academic Estate. As if this was not delicate enough, other considerations, very specific to Western Europe, enter into play at this point. Most significant of these is another dimension, which serves to mark off doctoral students from their fellows, namely a change in the formal status and conditions of employment of research students at

the doctoral level. Neither the French nor the German doctoral schools go so far as the Dutch in granting research trainees formal though temporary status in the academic world. (de Weert, 2004) Nevertheless, introducing formal contracts that set out terms of supervision and salary for individual students embarking on doctoral work, stand as very real marks of differentiation. If we care to look at the different levels of study in the Western European mass university as against the mode of their financing we come across a situation of more than passing interest. It is set out schematically below.

Predominant Student Funding Modes in Western European Universities by Level of Study.

Level of Study	**Individual costs.**
First Degree	subsidized
Masters	subsidized/ full cost
Doctorate	salaried.

Though the situation at first degree level is rapidly evolving as governments either increase enrolment fees or in Germany, are actively envisaging them, most students in mainland Europe do not, generally speaking, bear full-cost fees. There are, naturally, always exceptions in every country - usually in the non-state sector of higher education. Even so, it is seldom indeed that the individual first-degree student bears the full cost of the course he or she follows. This is not the case at Masters level and indeed, change in this domain is happening very rapidly in certain countries, not least the Netherlands where the opportunity to create revenue-generating courses at the Masters level is all the more attractive for the decision **not** to move to full cost fees at first degree level. The expansion in taught Masters and other courses of a professional nature at this level adds a further element to the issue of where the point of articulation is to be situated. It does so for the obvious reason that the prospect of additional revenue – or its relative deprivation - like the imminent prospect of hanging, concentrates disagreement wondrously. Even if one opts for a tracked solution – between taught, professional Masters degrees as extensions or retraining after first degree work and have others running in parallel clearly delineated as leading onto a research

degree – the question of setting and location, whether in Faculties or as part of the backward outreach of Research Schools is a fraught one even within the university sector.

Envoi

And yet. Much of the difficulties I have described presume, of course, a certain continuity in the structure, shape and profile of higher education systems as they are at present. Yet there is, here and there, evidence of new combinations of establishments joining their strength together, sometimes on a regional basis – here I am thinking of the rise in France of Technopoles – different types of establishment – university, engineering schools and university technological institutes coming together, either to increase the range of speciality to be covered or to consolidate areas of potential either in the region or farther a field. In the Netherlands, a recent example of what is becoming known as Clustering (Lebreton & Clustering book) has brought together my own university, Twente with the Technological Universities of Delft and Eindhoven in a bid to create, at very least, a Europe wide - if not a world wide - centre of excellence in the domain of Engineering and other cognate sciences. Both examples involve a re-distribution in the institutional task and thus its identity.

It may well be that despite the importance of research for national well-being, if not survival, we shall have to revise our views on the historical legal fiction that the Humboldtian ethic so brilliantly developed almost two centuries ago. That there is a moral obligation upon academia to undertake research does not mean that all do so, or that they do so to the same extent. In fact, if we look at academic careers, there is really no such thing as a guarantee to the right to do research. There is the right to compete - which may or may not be successful. And from this it follows that what is involved it is the right to apply, subject of course to having the requisite qualifications. The same principle applies naturally to institutions.

What is very clear in Western Europe over the past decade and a half is that the legal fiction of a world once Humboldtian, is under heavy revision. The instruments of review, which earlier we alluded to through the notion of the "Evaluative State", the procedures that surround them, have most assuredly become more standardised and more prominent in determining the fate, repute and standing of

individual universities and establishments within the diversity of mass higher education. This is a situation William of Ockham would have agreed with fully. For in essence, what matters is not how universities describe themselves but how they perform. Or, to return to the wisdom of our medieval schoolman, "As many as you can, but as few as you may."

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CHANGING VIEWS IN EUROPE ABOUT DIVERSIFICATION OF HIGHER EDUCATION

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1. Changing Emphasis Placed on Structural Issues

When the view spread in economically advanced countries in the late 1950s and early 1960s that an expansion of higher education was desirable, attention was paid first at the enrolment figures as such and at the proportion of new entry students among the corresponding age group. But soon a consensus emerged that a diversification of higher education was needed in order to cope with the rising costs of higher education, in order to concentrate the research function of higher education to a higher extent than the teaching function and in order to serve the increasing diversity of students as far as their motivations, talents and job prospects are concerned.

From the outset, diversification through the establishment of different types of higher education institutions played a major role. Community colleges were set up and expanded in the United States of America since the late 1950s. The Kôtô Senmon Gakkô established in Japan in 1962 was expected to become a major alternative to the universities but never succeeded to play a major role. British Polytechnics were established in the mid-1960s as a second type of higher education, before they eventually became universities in 1992. The French IUT followed soon thereafter as an institution with two-year professional programmes, and the German Fachhochschulen were established around 1970 as an academically and professionally ambitious alternative to universities by setting both a doctoral degree and professional experience as an entry qualification for professor positions (cf. OECD 1973).

But the debate about the need of structural diversification was not confined to types of higher education institutions. The American higher education researcher Martin Trow (1974) succeeded in introducing into the international debate a functional perspective of diver-

sification of higher education. "Mass higher education" was bound to emerge when enrolment surpass about 15 percent of the age in order both to protect "elite higher education" and to serve the needs of the new students, and "universal higher education" was likely to emerge in the future when enrolment surpasses the 50 percent mark. This functional emphasis took for granted that the means of diversification might differ between countries, but are likely to follow a similar dynamic.

I have tried to summarize the policy debates on the actual trends of the structures of higher education systems and the related concepts of higher education researchers in the late 1980s in the book "Changing Patterns of the Higher Education System" (Teichler 1988). I argued that the period had vanished when most experts and actors sought to define the most modern structure of the higher education system and when this theme was a priority theme in higher education. Rather, one could observe an enormous persistence of varied models of higher education in the various economically advanced countries.

According to this analysis, first, no international consensus has emerged about the extent of vertical diversity: whether a steep stratification was desirable in one extreme or only moderate quality differences in the other extreme. Second, countries obviously differed in the extent to which a horizontal diversity, i.e. diversity according to substantive profiles of study programmes and institutions, was encouraged or rather pressures for curricular homogeneity prevailed. Third, countries varied to the extent to which diversity was realized informally through differences of academic reputation and profile of formally similar institutions and programmes, or the extent to which diversity was realized formally through types of higher education institutions and levels of programmes. However, one could argue that some concepts became internationally more popular than others. I argued that various OECD publications and papers suggested a mainstream of a "soft model" of higher education. Accordingly, substantial diversity in terms of quality and profile is desirable, and diversification was likely to be realized both through formal and informal means. A modern system would not delineate sectors sharply, would offer ample opportunities for students to change their course of study and would be able to change its character quickly when need arises.

The persistence of variety, from my point of view, could be explained by the fact that not a single model has proved to solve all the expectations in a superior manner. Moreover, higher education policies seemed to be driven by three competing perspectives: to identify and implement the most modern option, to preserve and strengthen the historically grown profile of higher education within the individual country and to choose among major alternative policy options, for example a low or a strong emphasis on equality of opportunity.

Finally, I argued that persistence of variety does not mean that the structures of the higher education system remained fairly static in most countries. On the contrary, a perennial search of a better solution as well as constant revisions could be observed. Obviously, certain permanent challenges for a revision of the existing structures were in place, such as pressures for further diversification as a consequence of expansion and efforts of the sectors of lower academic reputation to raise their status.

In the meantime, many things have happened which call for a revisit of the theme. Higher education reforms through structural changes are again high on the agenda. In the late 1980s and early 1990s, enormously varied structural changes could be observed in a substantial number of European countries (see Teichler 1998; Haug, Kirstein and Knudsen 1999; EURYDICE 2003; Kyvik 2004). Subsequently, ministers of education of a large number of European countries agreed in the so-called "Bologna Declaration" in 1999, in contrast, to head towards a structural convergence of higher education systems in Europe. Last not least, many higher education researchers paid attention in the 1990s to structural dynamics of higher education systems and contributed to a more sophisticated state of knowledge (see for example Geiger 1992; Gellert 1993; Scott 1995; Meek, Goedegebuure, Kivinen and Rinne 1996).

The changes of the higher education systems actually occurring, the wealth of analyses undertaken by higher education researchers as well as my own observations lead me to believe that five issues which we did not pay so much attention in the past or which had not surfaced at that time deserve attention. I might characterize them as:

- Collective versus individual mobility of higher education institutions,
- Diverse versus common directions of change,

- Towards moderate or substantially different levels of quality,
- Major explanations of structural developments in higher education, and
- Growing complexity and new factors relevant for structural developments.

2. Collective vs. Individual Mobility of Higher Education Institutions

In the last two decades we noted major efforts in many European countries to change the types of higher education institutions and levels of study programmes and degrees. On the one hand, Polytechnics were upgraded in Britain and other countries of a similar higher education tradition to universities. On the other hand, various countries established or consolidated a second type of higher education institutions along the universities, such as the Hogescholen in the Netherlands in the late 1990s as well as the Ammattikorkeakoulu in Finland and the Fachhochschulen in Austria and Switzerland. Various Central and Eastern European countries implemented changes both with respect to types of higher education institutions and levels of study programmes and degrees. In contrast, the formal structures of the higher education system remained more or less unchanged in the United States and in Japan.

A closer look reveals, however, that it would be absolutely misleading to consider the structures of the higher education systems in the former countries as dynamic and those in the latter countries as static. Rather, in the latter countries, the individual institutions of higher education aim to change not merely their status within a group of higher education institutions but already possibly move from one institutional category to another one. Japan is a striking example where the proportion of junior college students among all students was cut half within a few years at the beginning of the 21st century (see Ministry of Education, Culture, Sports, Science and Technology 2004). Some educational establishments added to their junior college (section, i.e. a formally independent institution) a university (section), some junior colleges transformed themselves completely to universities, and some educational establishments comprising previously both a junior college (section) and a university (section) closed their junior college (section). Thus, the character of the remaining two-year col-

leges and the four-year universities remained unchanged, while the quantitative ratio was dramatically changed as the consequence of upward mobility of individual institutions within the given structure. In Western Germany, in contrast, only one Fachhochschule became part of a university through a local merger of a Fachhochschule with a small university, but the Fachhochschulen were active collectively to raise their status as compared to universities by lengthening the course programmes, extending continuing education, strengthening its research role and facilitating possibilities of transition from a Fachhochschule degree to doctoral study.

It is not easy to explain these differences. Certainly, the inclination for individual mobility might be stronger within higher education systems characterized by substantial differences of quality and possibly profiles within the same type of higher education institutions. But even among European countries characterized by substantial quality differences within the same type of higher education institutions, e.g. Britain, we noted collective mobility. Certainly, legal frameworks and government funding play an important role: if institutions of higher education are assigned a certain role within the higher education system through legislative frameworks and resource allocation they seem to note little opportunities to change their fate within the higher education system individually. Rather, they try to upgrade themselves collectively, often through a mix of preserving a clear distinction to the most highly reputed institutions in some respects while reducing or abolishing the distinction in other respects.

3. Varied Directions of Change

One could have assumed that the general trend of expansion of higher education which obviously has got momentum in the 1980s again (see OECD 1998), after stagnation in some countries during the 1970s, would have elicited similar structural changes in many countries, for example an increase of the number of types of higher education institutions and the number of levels of study programmes and degrees. Or one could have assumed that the pressures for "academic drift" could have led to a more or less concurrent upgrading of the non-university higher education institutions established in the 1960s and 1970s.

In reality, however, structural changes in Europe in the late 1980s and early 1990s were not as uniform as some experts had predicted during this period. We noted that some countries traditionally recognizing only the universities and mono-disciplinary higher education institutions not named university but similar in function as higher education institutions changed their policies and upgraded other institutions to a second type of higher education institutions, such as the Netherlands in the late 1980s or Switzerland in the 1990s. Or Finland, formerly having upgrading short programmes to long university programmes and non-university colleges to universities in the 1980s, returned to a policy of visible diversification in the 1990s and upgraded all vocational schools to Ammattikorkeakoulu as a second type non-university higher education institution offering shorter and more vocationally oriented programmes than those provided by the universities. Or we noted the choice of varied changes as far as the length of study programmes and types of higher education programmes are concerned in the Central and Eastern European countries in the wake of their rapid post-Communist economic and social transformation: this variety is an indicator as well that not a single structural model was viewed as the superior role model. Or the British Polytechnics were upgraded to universities in 1992. Some experts argued that this would lead to a universal trend of structural change away from two-type and multi-type systems towards unitary systems of higher education, but this did not turned out to be true.

In addition, we should point out in this context that various supranational institutions involved in higher education policy abandoned the term higher education as an umbrella term in the 1980s and substituted it by "tertiary education". Even if they continued to talk about university education or higher education, as for example the European Commission, they turned to a policy of underscoring predominantly the life stage of learning (primary, secondary, tertiary) rather than the intellectual ambitions of teaching and learning ("higher"). In reality, however, the term "tertiary education" was not a sign that institutions providing education for the same age group have more in common now than they had in the past. Rather, the term "tertiary education" served as an arena of up-grading for former advanced vocational schools towards a new institutional type somewhat closer than in the past to institutions such as Fachhochschulen.

In Europe, an umbrella organization was established for types of higher education institutions not equally in charge of teaching and research in order to make their voice heard along the universities in the European higher education policy arena. The organization was called EURASHE (European Association of Institutions of Higher Education). This association remained a feeble voice in the chorus of higher education policy in Europe not only because it was difficult to compete with the large and vocal associations of universities, but also because it had a constant flux of memberships. Some well established non-university institutions moved out in the expectation to be recognized on the European level as universities, such as the German Fachhochschulen, and some other institutions traditionally not considered to be higher education institutions such as the German Berufsakademien moved in (see Kirsch et al. 2003).

Four countries (France, Germany, Italy and the United Kingdom) agreed in the Sorbonne Declaration of 1998 to strive for a "harmonization" of higher education structures in terms of the establishment of a stage structure of study programmes and degrees similar to those existing in the United States and in the United Kingdom. In 1999, eventually ministers of 29 European countries agreed in the Bologna Declaration to head for a "convergent system" of higher education across Europe. Subsequently, a widespread consensus emerged that programmes of the first level should comprise 3-4 years, those of the second level 1-2 years and both together not longer than five years.

The decision to strive towards a convergent structure primarily shaped by levels of study programmes and degrees was as surprise move in various respects (cf. van der Wende 2000; Neave 2002). First, all prior European policies in the preceding two decades were based on the rationale that any supra-national higher education policy should respect the variety of the existing national higher education systems. Second, one of the two major official rationales of the establishment of a convergent structure, namely to facilitate student mobility within Europe, was hardly convincing. On the one hand, recognition of prior study worked quite well within Europe if there was mutual trust between the institutions from which the student came and to which the student moved in a similar quality: the required years of study were widely accepted as the appropriate "exchange rate". On the other hand, neither years of study nor the level of study pro-

gramme and degree was likely to be accepted as exchange rate, if the receiving institution of the student mobility considered its academic quality to be substantially better than the one from which the mobile student came. On the other hand, many experts assume that quality differences among higher education in Europe were on the way of becoming bigger. Moreover, the actual development of the introduction of a bachelor-master structure suggests that national options pursued vary to such an extent that a greater compatibility of study programmes and degrees might not be achieved eventually (see Alesi et al. 2005).

Although the second major rationale of the Bologna process to enhance the world-wide attractiveness of higher education in European countries was at least plausible in terms of making master studies more attractive and feasible in Europe, we note widespread speculations about the major hidden rationales of the so-called "Bologna Process". Some experts point out that anticipatory imitation of presumed European trends already became fashionable before the Bologna Declaration (see Neave 1997); others argue that the Bologna process served as a good starting point of reinforcing the widespread plans of the politicians and employers in many European countries to increase the proportion of students entering the labour market after graduation from a short study programme.

Whatever the consequences of the Bologna Process eventually will be with respect to facilitating student mobility and making higher education in Europe more attractive world-wide: it is clear that the Bologna Process upgrades the level of study programmes and degrees as the single most important dimension of the formal structure of higher education systems across all European countries. In the past, supra-national organizations already tended to describe and compare higher education systems primarily by years of study or levels of study programmes and degrees. But one could argue in the past that the supra-national organizations tended to underestimate or to downplay differences by types of higher education students because national higher education institutions were more heterogeneous in that respect and could not easily be compared according to a simple set of criteria. The Bologna Process, however, set a clear priority for levels of study programmes and degrees.

It is still premature to predict convincingly the future of higher education systems previously characterized by diversity according to types of higher education institutions. Some experts expect an upgrading of the well-established non-university institutions of higher education towards universities in the near future, while others expect a persistence of different types of higher education institutions as a secondary dimension of formal diversity. German Fachhochschulen, tending to point out that they cannot be conceived anymore as non-university higher education institutions and translating their German name officially into English as "universities of applied sciences" could be viewed as the first candidates for such an upgrading similar to that in Britain in 1992, but most key higher education policy actors in Germany continue to advocate the preservation of a two-type structure of higher education. Both types of higher education institutions now are in the process of establishing Bachelor programmes not formally divided into different curricular types. Well qualified graduates from bachelor programmes of Fachhochschulen are expected not to face major problems if they want to continue their study in a university master programme. Both types of institutions might offer master programmes of either academic or professional emphasis. Of course, Fachhochschulen are expected to opt predominantly to programmes of an applied emphasis, but they are not confined to it. It remains to be seen whether the two-type structure will persist.

4. Towards Moderately or Substantially Different Quality Levels in Higher Education

We observe in Europe currently, this is my third point, ambivalence as regards the desirable degree of quality differences among institutions of higher education and among the study programmes of the same formal level. Do we want a substantially increasing vertical diversity, i.e. diversity of the quality and reputation, in higher education or do we want a moderate vertical diversity in European higher education as far as the teaching and learning function of higher education is concerned?

We note two divergent lines of debates about the higher education in Europe around the year 2010 (see Weber 2003). On the one hand, the realization of a "European Higher Education Area" is called for in the Bologna Process. This process should facilitate student mobility

within Europe, and this is likely only if quality differences between study programmes of higher education institutions within Europe are moderate in most cases. There are arguments as well that the Bologna Process itself is ambivalent as far as the desirable degree of quality differences is concerned (see Vught, Van der Wende and Westerheijden 2002).

On the other hand, the ministers in charge of the member states of the European Union called in 2000 in Lisbon for the establishment of a "European Research Area", and in this context, emphasis is placed on competition for excellence, and many actors and experts of the research scene argue that a steep stratification of the higher education institutions in Europe, similar to those in the United States, would allow to concentrate the most talented researchers and other resources in the most effective and efficient way in order to realize a higher quality of top research.

In fact, the view is widespread that decisions have been made whether Europe should move towards providing privileged resources for a small number of elite universities. But there are debates whether a few excellent universities are the most suitable model or whether a spread of "centres of excellence" across a larger number of universities was the most appropriate solution these days. One might even assume that establishing "networks of excellence" is the most appropriate solution of the future, when, as a consequence of spread of information and communication technology, cooperation in research does not be dependent anymore on physical presence at the same location. One also could discuss the most appropriate scenario of a "knowledge society": Do we move towards a concentration of high-level knowledge which is likely to shape the rest of the world, or do we move towards a knowledge society characterized by dispersion of knowledge and a high proportion of highly qualified persons in society able to act independently (see Teichler 2003)?

At any event, we observe that advocacy of a more highly stratified higher education and research system is widespread in Europe these days whereby terms such as "elite" and "excellence" prevail without any reference to the consequences of concentrating resources for those parts of the higher education and research systems which are not the beneficiaries of this concentration. This is by no means coincidental. Clearly, there is a widespread call in Europe to strengthen excellence

of higher education and research. In addition, a further increase of the quota of new entry students is favored in many European countries. But it is by no means clear whether a steeper range of quality is accepted as the most likely consequence.

I like to illustrate this by a personal experience which I consider typical for the German debate about excellence in research and higher education. As member of a commission deliberating the future structure of the higher education system in North-Rhine Westphalia, the largest German state, I noted that some highly influential members of the commission on the one hand seemed to be in favor of a future growth of enrollment quotas, but at the same time argued that they preferred some universities to be closed due to lack of quality. When I provided evidence that the average research grants raised by professors, the most frequently employed quality indicator in our debates, varied in multi-disciplinary universities of North-Rhine Westphalia only by a range from 100 to 70, I was criticized rudely as an "advocate of mediocrity" in research and higher education. This is an example that one wants to have concentration in favor of excellence, but does not have any positive view of diversity in countries with university traditions such as the one in Germany. It still remains open whether genuine vertical diversity will be accepted eventually which implies as well a proper place of higher education institutions somewhere below the average of academic quality.

With regard to horizontal diversity, we observe in many Europe countries claims that universities should sharpen their specific profiles more strongly than customary in the past. We also observe that evaluation systems have emerged in some European countries emphasizing "fitness for purpose" of the different institutions and their profiles. It is appropriate to argue, though, that the majority of evaluation and accreditation schemes established as well as the majority of publications, analyses and debates in Europe in the diversity within higher education and research focus so strongly on ranks of quality and reputation that hardly any serious encouragement to come to horizontal diversity can be observed, i.e. a diversity of curricula thrusts, different schools of thoughts, different paradigms and thus possibly of different substantive profiles of higher education institutions.

5. Major Explanations of Structural Developments

Over the years, various concepts have been developed aiming to explain the structural dynamics of the higher education system. As already pointed out, we note substantial additions and sophistications of these concepts in the 1980s and 1980s (cf. the overviews in Neave 1989; Meek, Goedegebuure, Kivinen and Rinne 1996; Teichler 1998). Without going into detail, we can point out that four major conceptual frameworks emerged without a single one being clearly superior in explaining the actual developments comprehensively.

According to the first concept, the emergence of a second type of higher education institutions or ways of increasing diversity was explained as a natural consequence of the expansion of higher education (see Trow 1974; Clark 1983). Such "expansion and diversification" concepts suggest that expansion of higher education leads to an increasing diversity of students as far as their motives, talents and job prospects are concerned as well as to more diverse needs of other users. The increasingly diverse needs were most readily met through a growing "division of labour" among institutions of higher education.

Second, concepts became popular which might be called "drift theories" (see Neave 1996). According to them, the different types of institutions or the individual institution were not necessarily eager to serve a variety of needs. Rather, institutions often aim to stabilize themselves and to increase their status by getting closer to the most successful ones. Often, an "academic drift" was noted among non-university higher education institutions. Concurrently, signs of a "vocational drift" emerged under conditions of a tight graduate labour market and general pressures for a growing practical relevance of higher education (Williams 1985).

A third type of approaches might be called "flexibilisation" concepts. In contrast to a clear segmentation according to institutional types, substantive profiles etc., a belief spread in the virtue of late selection, permeability of educational ladders, compensatory measures and soft patterns of diversity. Accordingly, no decision in the educational careers would be considered as definite, here both advocates and critics of educational expansion could agree, and rapid adaptations could be expected if major problems occurred (see the analysis of OECD policies in Teichler 1988a).

Finally, we note "cyclical" concepts of the structural development of higher education (see the discussion in Windolf 1997). Accordingly, certain structural patterns and policies come and go in cycles. For example, opening up educational roots and reduction of the differences between varied types of higher education institutions and course programmes might be on the agenda at times when a shortage of graduates is felt, whereas segmentation and hierarchisation of higher education might be favoured and actually might take place, when fears of over-supply of graduates or "over-education" dominate the scene.

In recent years, a fifth direction of explanations might be added to these four explanations named above. As, for example Guy Neave (1987) has pointed out, many decisions taken regarding the structures of higher education were driven by the intention to imitate presumed new trends. One tries to anticipate what will be a political success story in the future, one starts campaigns across different countries to follow similar lines; the Bologna process is a typical example of this kind.

6. Growing Complexity and New Factors Relevant for Structural Developments

As a fifth and final point, I like to add that the past explanations of structural developments of higher education seem to have addressed only a relatively small range of aspects of major forces. There was, first, a strong emphasis on the motives, talents and job prospects of the students. Second, we noted a debate about the compatibility of research and teaching, whereby many actors and experts advocated a higher degree of concentration in research and a higher protection of an elite sector of research, whereas a larger and somewhat more homogeneous system seemed to be appropriate for teaching and learning. Moreover, we paid attention, as already pointed out, to tendencies of academic drift and to cyclical developments of widening the vertical diversity of higher education and compressing it.

Most recently, however, we begin to realize that there is a wider range of factors which we have to take into consideration in explaining the structural development of higher education systems. The more higher education is embedded in an increasing complexity of links to society the broader is the range of key factors affecting not only the substance, but also the shape and the size of the higher education sys-

tem. This was pointed out, for example, in a seminar on structural developments of higher education arranged by the Unesco Forum of Higher Education Research and Knowledge (see Guri-Rosenblit and Sebkova 2004; Bleiklie 2004; Teichler 2004).

Certainly, five factors deserve attention. First, growing international cooperation in higher education and increasing mobility of students and staff might effect the structures of the system. As already pointed out with respect to Bologna Process, efforts to establish similar patterns of higher education system all over the world are more often advocated now than in prior years. Even if one does not know for certain what might be an optimal structure, joint efforts for a common solution are viewed as beneficial in order to facilitate mobility and cooperation.

A second additional force might be called "globalization" in terms of blurring national systems and in terms of an increasing global interconnectivity. We note that many institutions of higher education want to position themselves on a world map, and, thus, strive for elite positions in diversified systems of higher education seem to grow. As a consequence, globalization serves as an argument in favor of a steeper stratification within national higher education systems.

The third new force, or a force which we had not paid so much attention to in the past, are the new media. A system of higher education might change substantially if cooperation across countries is undertaken primarily through virtual means. This reinforces transnational education. We might also come to the conclusion, as pointed out above, that we need to a lesser degree than in the past elite universities and local physical centers of excellence and that we establish flexible networks of excellence in an otherwise flattened hierarchy of higher education institutions.

Fourth, new steering and management modes which have spread in Europe in the last two decades might put their stamp on the shape and the size of higher education systems. Individual institutions of higher education might be successful in raising their status and sharpening their profiles. Collective mobility of higher education systems might loose momentum, and macro-political activities in higher education might decline. As a consequence, informal dimensions of diversity might outweigh the relevance of formal distinctions according to

types of higher education institutions, levels of study programmes and degrees, etc.

Finally, as already mentioned, the "knowledge society" often referred to eventually might become a force of its own. Everybody seems to agree that we are moving towards a knowledge society, but if we look closely, the views vary dramatically about the character of the knowledge society we are heading for. Will knowledge strived for be completely shaped by the needs of society and economy, or is there increased room for academic freedom and for a pro-active influence of academia on society? Is the knowledge society characterized primarily by a competition for top knowledge, and will those who deliver top knowledge rule the world, or is the knowledge society shaped primarily by masses being knowledgeable, by a spread of knowledge, understanding and independent action across the society at large?

As long as we assumed that a limited number of underlying forces determine the structural development of higher education, we were in the position to develop relatively bold concepts about the causes and the consequences of certain patterns of the higher education systems. The more we become aware of a growing complexity of underlying forces, the less we can trust in simple concepts of causes and effects. We need more in-depth analysis in order to gain evidence of the role these underlying forces actually play. The current vivid process of higher education reforms has reinforced high hopes and substantial controversies as regards desirable and actual structural developments of higher education. We are just at the beginning of a search for evidence.

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REPORT OF THE RAPPORTEURS

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Martin Trow, Moderator

The session started with a presentation by the Chairman of the Planning and Budgeting Committee, Professor Grossman, who presented the structure of the present system of Israeli higher education. There can be no controversy on that, but in the second part of his presentation he described the later developments, where he emphasized the five year agreement that he has reached with the Treasury as a great achievement of the system. I agree that it is an achievement. There was a price tag to it, because together with a certain agreement that was reached, certain reforms were imposed on the universities and it is specifically this agreement which caused, and I would say is causing, a deep controversy in the system.

Professor Grossman described this as an achievement, as a reform that the universities accepted, and as a move that in his words literally saved the universities,. It is exactly that development that causes the major concerns that were expressed, sometimes in rhetoric, and in alarming terms by Zehev Tadmor and Joshua Jortner. Zehev pointed out, among other things, one element in this development which I would like to emphasize. Zehev talked about the crumbling of the central, regulatory systems of our higher education system, crumbling in two senses: one in the sense that the institutions are not able to cope with the developments, and it seems that there is a certain run-away process that is taking place, and the other element is that they have been politically almost overtaken. So this is one element which Zehev emphasized.

Joshua Jortner described the whole process in the context of the Bashaar Report, which assessed the present situation and emphasized the red lights - the dangers that our system is facing. And on several occasions during these two days, the visitors from abroad have pressed us, or challenged us, to really define specifically what are the concerns, and what we feel. That happened in remarks from the floor, and at a meeting that we had during lunch-time, and the question was: “is it only the money?” and if I may comment on that, yes, the money is a major issue.

Professor Grossman emphasized, in response to remarks from the president of a certain college, why the system does not encourage or subsidize research infrastructure in the colleges; he emphasized the scarcity of resources. But in my view, and I think in the view of my foreign colleagues, it is not only a question of money. One concern is that, in a large system with so many institutions, what is called "this process of homogenization" may lead to a system of homogeneous institutions, and, in such a process, institutes or centers of excellence get lost.

Professor Harari, in one remark from the floor stressed this concern with homogenization. In the responses that these remarks generated, the presentation by Professor Nava Ben-Zvi, President of the Hadassah College, remained a little in the shadow. I would like to resurrect it from there because I believe that what she said deserves very serious attention. Although her presentation was full of question marks, behind those question marks were very powerful statements. They came from a president of a college who does not aspire to develop it into a university, and accepts and understands the notion of a diverse system. We heard about diversity in many contexts yesterday and today, the goal of a diversity of institutions with different missions. Professor Ben-Zvi is really trying to find a mission based on excellence for the different kind of institution that she is leading. She talked about different concepts of excellence, and what she said reminds me of a report that was published about 10 years ago by the Carnegie Institute, under the title "Scholarship Revisited". That report urges us to revisit and redefine the whole concept of scholarship, which, until recently, was based only on conceptions of excellence in teaching and traditional research. The Carnegie Report added two further definitions of excellence, one of those taking the form of excellence in the applications of research. The other might be called excellence in the integration of scholarship -- not primarily in the form of additions to knowledge, but in new and effective syntheses of knowledge to make undergraduate teaching across disciplinary lines more effective.

I don't want to elaborate here on the meaning of these two terms - they are very broad, and embrace many of the things that Nava eluded to, as well as a number of the tasks that Haim Harari today

pointed out as tasks for an institution. But, in fact, the consequence of rethinking the nature of excellence in higher education leads to a redefinition of what scholarship is about. I think that the presentation of Nava, with the other two that I mentioned before, really encompasses not only the problem, but also hints at some directions that we should look to when we discuss where we go from here. And it provides hints about how to integrate institutions with different missions, functions and concepts of excellence into a common yet diverse system of higher education.

Sara Guri-Rosenblit – Commenting on the Session: "Patterns of Diversification of Higher Education"

I am delighted to be the rapporteur of the session on "Patterns of Diversification of Higher Education Systems", in which two of my dear colleagues, Guy Neave and Ulrich Teichler, presented their papers. I had the chance to see Ulrich a few days ago in the Forum of Higher Education, Research and Knowledge of UNESCO, which took place in Paris, and Guy Neave attended too. One of the main themes in the colloquium of this Forum, which was attended by 386 participants from all over the world, was devoted to the issue of the diversification of higher education systems. Obviously, it is a very popular and "hot" theme right now everywhere.

As Thorsten Nybom phrased it earlier this morning, European higher education systems are currently undergoing a major historical reorientation. The last two decades have witnessed the widest and deepest changes in higher education systems since the establishment of the first universities in medieval Europe in the eleventh century. Notions and practices about learning, teaching, knowledge generation, degree structures, budgeting and so on, are nowadays being challenged, debated and revised.

Speaking about history, it is interesting to note that the most serious initiatives to restructure higher education in Europe took place while celebrating historical events of medieval universities. One such event took place in 1998 when hundreds of people gathered at the University of Bologna to celebrate its 900th birthday. On this occasion, the *Magna Charta Universitatum* was charted, signed by hundreds of rectors and presidents of European universities, emphasizing the

important role of the universities in ensuring the economic and social strength and growth of Europe. Ten years later, four ministers of education from France, Britain, Germany and Italy met at the Sorbonne University to celebrate the 800th birthday of the University of Paris (though the original University of Paris does not exist anymore, since it was abolished by Napoleon, and the Sorbonne college developed into an autonomous, leading university in France). The Sorbonne Declaration, which called for a greater collaboration between higher education systems in Europe, was followed a year later by the Bologna Declaration which put forward the Bologna Process, which has been discussed in several presentations at this conference, and which aims at creating a harmonious higher education system in Europe by 2010.

We are also celebrating a historical event in Israel - the 80th birthday of the Technion, and next year, the 80th birthday of the Hebrew University, which might be a good starting point for rethinking and revising some of the norms and practices in the Israeli higher education system. So, the celebration of historical events might lead to important and interesting consequences.

Guy Neave and Ulrich Teichler related in their presentations to various aspects of the horizontal and vertical patterns of diversification that have taken place in the last decade in Europe, as well as in other parts of the world. Interestingly, some of the patterns go in diverse directions that both complement and counter-balance each other. I will highlight three pairs of such contradictory trends:

- **Diversity versus homogeneity** - In the last decade many new higher education institutions have emerged, contributing to a greater diversity of the higher education systems. As Guy Neave pointed out in his presentation, there are currently many labels attached to the term "university": research universities, corporate universities, virtual universities, entrepreneurial universities, service universities, responsive universities, learning universities, consortia-type universities, etc. At the same time, such trends, as enhanced by the Bologna Process, promote greater homogeneity of higher education systems, and particularly, higher education degrees. Within

ten years, it is most likely that most higher education degrees in European countries will follow the continuum of 3-5-8, as drafted in the Bologna Process, i.e., three or four-year first degrees, one to two years of master level studies and additional three years for doctoral studies. Accreditation procedures and enhanced mobility of students between several national jurisdictions, while studying towards different academic degrees, will contribute as well to a greater harmony and homogeneity of academic programs. Both trends of growing diversity and growing homogeneity will continue to coexist in the coming years.

- **Competition versus collaboration -** The last decade has witnessed a growing competition between higher education institutions for students, funds, research projects and attractive academic programs. At the same time, there is also a growing trend of collaboration between academic institutions both in research projects and in study programs. Such collaborations nowadays transcend national boundaries of any given country and promote international cooperation. Universities from different countries join forces to offer various programs to students situated at many locations. These two trends of growing competition and growing collaboration will also continue to coexist in the future. Personally, I am a great believer in collaboration and cooperation which have the potential of leading us to richer and beneficial outcomes.

- **Greater autonomy versus greater accountability -** A third pair of contradictory developments in higher education relates to providing greater autonomy to higher education institutions to draft their academic programs and design their future missions, but at the same time there is also a growing demand for long-term accountability of the higher education institutions as whole entities. Several reforms that took place in the last years in Europe, Australia and Japan went into such a direction - of granting the presidents of universities many

more degrees of freedom in leading and designing the teaching and research paths they would like to follow, and at the same time imposing national macro-level accountability and quality assurance schemes.

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Now I would like to take the major lessons that appeared in the presentations of Guy Neave and Ulrich Teichler and in some other presentations in this conference, and link them to the Israeli scene. I will refer briefly to seven such links:

- **The need for a cohesive system -** This conference is entitled "Transitions to mass higher education systems". "Systems", not "higher education institutions"; and there is a meaningful difference. As we all learned since our childhood, "the whole is bigger than its parts". The Israeli higher education institutions developed individually, one by one, and still operate as separate and individual entities, taking care of their particular self interests. The system in the context of Israel has been imposed top-down, by the law of the Council for Higher Education, and its regulations. But it has not been formed yet as a cohesive system, in which all of its composing parts understand well their function in the total system. Such a bottom-up formulation of a higher education system, as is reflected in the California Master Plan of Higher Education, is essential to get the legitimacy from all of the institutions that compose it, as Sheldon Rothblatt indicated before, and as was stressed also by David Gardner in his video-conferencing presentation this morning. It is definitely a great challenge that cannot be achieved by a top-down regulation or a law imposed from above by politicians. It has to be worked through by ongoing dialogues, discussions and collaborative agreements.

  I would like to borrow, for a moment, a metaphor, used by Neil Postman, while trying to describe the situation of humankind. Let's imagine that all of us are on a spaceship,

taking us somewhere. The destiny of all of us is dependent on each other. Each move and each change that takes place on this spaceship affects all of us. In such a situation, it is definitely better to collaborate rather than compete with each other.

- **Ensuring the status of the research universities -** It is of tremendous importance to ensure the important status and functioning of the research universities in the face of the massification of the higher education systems, and the shrinking budgets devoted to the funding of universities and colleges. While talking about research, it is important to distinguish between the heavy science research which requires great investments in order to create a high level infrastructure, and research which does not necessitate heavy infrastructures. Let's face it - most of the heavy science research is conducted at universities (or special institutes outside higher education, such as the Max Planck Institutes), and not in the colleges, and it will continue to be so also in the future. The question that has been debated frequently at this conference, whether it is possible to conduct research at colleges, is a bit misleading, since to conduct a comparative research on higher education, as all experts in these conferences do, does not necessitate the infrastructure of research on nano-technology. So research can be conducted at all higher education institutions, but heavy infrastructure research can be conducted only, or mostly, at research universities.

- **Flexible pathways of mobility -** One of the challenges before us here in Israel is to create and ensure flexible pathways of mobility between different higher education institutions, as is the case in the three-tier system of higher education of California, and in many countries worldwide. The Bologna Process in Europe is aimed mainly to enhance the mobility of students between higher education institutions in the different countries that compose the European Union. This we should

do without paying just lip service. Currently there are no a-priori accreditation regulations in Israel in between universities and between universities and colleges. My university a few years ago initiated some transfer schemes with other universities, mainly for young students that take degree courses while attending high school or while serving in the army. Such schemes enable these students to continue their second year studies at other universities. But these arrangements are conducted on a very limited scale, and have to be broadened, if we want to enhance the flexibility and mobility in our system.

- **Enhancing an international orientation in teaching -** The Israeli academics are highly internationally oriented in their research, working closely with colleagues from different countries, particularly in the USA and Europe. But rarely do their international links relate to teaching. We are a most conservative country in many of our teaching practices. So many changes that relate to the design of academic programs and teaching are currently taking place all over the world, that it is important that we should be more attentive to such developments and changes. The teaching practices in the early Israeli universities were based on the Humboldtian University, but the Humboltdian University changed drastically in the last decades and has been transformed into several models. We should relate to many changes that take place in many countries in the fields of quality assurance, degree structures, inter-disciplinary programs, etc.

- **Revising our graduate degree structures -** It is important for us to pay careful attention to what is taking place right now in the Bologna Process in relation to degree structures. These developments affect many more countries global-wide. I refer mainly to our graduate degrees, specifically in the humanities and social sciences. Our master's degree, for instance, has no equivalence in any other country. The median time to complete a master degree is over four years. Some underlying

beliefs about the degree requirements have to be rethought. Prof. Shechter was pleased yesterday that his college received permission to grant a master's degree with a thesis, since it reflects a higher esteem for the institution. No question of whether the thesis is really so important and needed is asked. Why is it a must to complete a master's thesis in order to pursue doctoral studies in Israel, and there is no such requirement to pursue doctoral studies at Harvard or Stanford University? Maybe after a careful examination we will reach the conclusion that we have the best practices, and maybe not. But we have to rethink some of our old practices and premises. This is also true for our doctoral studies. As Guy Neave pointed out earlier, since 1998 there is an ongoing move to establish new type doctoral schools in many European countries, based on a more structured program, as is the case in the American universities. The Max Planck Society has established 29 new international and inter-disciplinary doctoral schools since 1999. The time is ripe also for us to rethink and revise our doctoral studies in many fields accordingly.

- **Rethink the functions of the Council for Higher Education and the Planning and Budgeting Committee –** With all due respect, the re-evaluation and rethinking of the practices and operation of the Israeli higher education system have to relate not only to the institutions, but also to the operation of the Council for Higher Education and the Planning and Budgeting Committee. These bodies came into existence when just a handful of universities were operating, and now have to function in the framework of 57 accredited higher education institutions, not counting the branches of external universities. Some of the ongoing practices of accreditation are totally outdated. There is a growing overload of work which cannot be handled efficiently, on the same principles formulated more than thirty years ago. Currently, each program and each change in a program have to undergo the approval of the Council for Higher Education, and some of the evaluation

procedures take two, three and even four years. Such a situation should be altered and changed, providing greater autonomy to the individual institutions, and developing, at the same time, long term institutional accountability procedures.

- **On the importance of being proactive rather than reactive -** Throughout this conference we have heard most convincing evidence as to the merits and advantages of being proactive rather than reactive. The Master Plan of California is an illuminating example. I remember that while reading the memoirs of Clark Kerr, who was the main architect of this plan, how thrilling it was to learn that at a certain point the feeling was that everything is going to collapse, and no agreements between the different parties would be reached. But at the last minute, he decided to present before the participants the alternative if they did not succeed in reaching an agreement, which would be much worse when imposed by the government. This alternative convinced the participating parties to draft their collaborative plan. In the Israeli context as well, it is of tremendous importance to enhance the dialogue between all the segments of the higher education system, and to work towards creating a cohesive system from the bottom-up, rather than enforced by top-down laws. It is likely to be most beneficial to all.

Grant Harman – Commenting on the Session: "Government-Academia-Society Relations in an Expanding System"

I will summarize very briefly the session on Government, Academia and Society Relations in the expanding system. Inevitably, in a time of rapid expansion of higher education systems and diversification, higher education-government relations are of great importance. There will be strain, there will be tensions, there will be need for additional resources, and governments will find it difficult to secure additional resources. Governments will also look for efficiencies, to get people to do more with less.

Inevitably when you have a growing and ambitious college sector, there will be pressures coming to offer new courses, more senior courses, and perhaps some of the institutions will ask for special favors to be able to cross the line binary into another sector. In our country, even the elite universities sometimes make special appeals; we have a small group of universities that see themselves as being superior to the rest, and they have tried to convince the government that we really need a couple of "world class" universities. Of course, in essence they are asking that the government should give them massive amounts of additional resources and they will be "world class."

Let me talk very briefly about the four presentations.

- David Gardner gave us an excellent presentation about a "model system" that has impressed many of us. There are three things that particularly impressed me about what he said; one was about the development of the original Master Plan. In my understanding, it was a bottom-up exercise. The various components of the higher education sector that came together and managed to reach agreement about the missions and roles of each of the sectors and how they should relate to one another; only then did they get government endorsement. This raises the question whether there is any possibility in this society for the higher education institutions collectively to try to reach an understanding or agreement on particular roles and missions, and how the various sectors might relate to each other.

  The second thing relates to the content of the Master Plan. Now I don't think it necessarily means that other societies have to do it the same way, but I think it is very important if you are to have a plan that there is agreement on content. Certainly you will wish to include the missions of the research universities and the different colleges, but I am sure there also are a number of other things.

  The third thing is the importance of the student, the transfer function, the movement of students, the recruitment of students

between different kinds of institutions and the possibilities for students to move from colleges to universities. I think this is of great importance, particularly under what conditions students are able to move, such as after two years (as in the case of California) or after completing the bachelor's degree in a college? Can they move from a college straight into the university for graduate study or do they have to do additional courses? and so on.

- Martin Trow gave us, as usual, a very thoughtful and interesting presentation. I was taken with his criteria for successful reform. Institutional autonomy is necessary to the institutions, as well as strengthening the role of precedence. If we are going to have successful diversification, what are some of the criteria that will need to be met and worked out, to what extent is the system moving successfully towards diversification, and what can be done in the future?

- Thorsten Nymbom gave us a somewhat pessimistic view of what has happened in recent years in Europe with regard to the elite universities, and there is a lesson here, in terms of diversification and appropriate measures and strategies to protect the role of research intensive universities. There are different ways that this can be done.

- Finally, Professor Harari covered a wide range of items, particularly regarding tasks and resources. One thing that particularly stuck in my mind was the point he made about a student contribution. I think there are some very important questions about what the student's contribution should be, whether it's actually a fee or some kind of graduate tax repaid later, and all sorts of questions about whether different fields of study should have different tuition fee levels. His very sensible suggestion was that the level should be the real cost of the cheapest field.

Thorsten Nybom – "Reporting" on Research and Higher Education in Sweden, 1960-2005: A Slightly Impressionistic Overview

Explanatory introduction

I will probably do nothing in the area of reporting on the actual proceedings of this conference. My only excuse and explanation for not having done my job is that I have been formally asked by my Israeli friends to add, more or less impromptu, yet another European country to the list of comparative cases. And, furthermore, this could perhaps be appropriate since there are, at least in my view, certain similarities between Israel and the Nordic countries, and particularly Sweden, not least in the area of science and science policy. At the same time there are, of course, also huge differences.

Starting with the differences, Sweden is probably the most secularized country in the world; nobody goes to a church, except on *Sankta Lucia*, the 13th of December, and when they go there the main reason most probably is to listen to their young daughters singing in the choir, not to worship.

Second, while geographically Israel is a fairly small country, Sweden is in comparison an enormously large country; in area it is among the three largest countries in Western Europe. So if you take the Scandinavian Peninsula together with Finland, and put it over the European continent, almost everything will disappear between the Bay of Biscay and Moscow.

Third, Israel has been in a state of war or at least a state of alert since 1948, while Sweden has enjoyed an unbroken period of peace since 1814.

If we turn to similarities; Sweden is usually considered to be *the* social democratic state *par excellence*. Israel, at least during its first formative decades, was considered to be a decidedly social democratic experiment.

Second, in the two countries we find a tradition of an efficient and powerful central government, which can act both swiftly and almost brutally and do so very frequently. This capacity of centralized and swift action has also had implications for science policy.

Third, it has been pointed out by many Israelis that your excellence in science is to a very high degree linked to your enormous defense

budget. Surprisingly enough, the other country that spent nearly as much on defense and military related research, between 1945 and 1975, and showing the same relative "success" in its science out-put, was "peaceful" Sweden. Thus, it is fair to say that Sweden, like Israel, in reality had no "research policy" between 1945 and 1975, but rather a *policy for national security*, which meant that roughly 75% of the country's total research and development expenditures were more or less directly linked to the military-industrial complex.

In Sweden, of the remaining 25%, the main bulk was closely linked to social affairs and the building up of the social welfare state – i.e. medicine. The remaining very tiny fragments of research funding – *i.e. research and science policy proper* – went to the universities as block grants. The positive results of this asymmetric and externally driven R & D-funding in both countries are certainly reflected in almost every type of international citation index for the sciences and biomedicine. In these fields of research, you always seem to find the same trio at the top of the list: the Swiss, the Swedes and the Israelis.

On the other hand, if Israel, as far as research and university organization is concerned, has had a very stable system since 1958, a fact which, obviously, by the Israeli academics themselves, is considered to be an almost godsent blessing, then Sweden must be seen as an almost opposite and equally cursed and ill-treated case. It would be fair to say that Swedish higher education and research organization/ funding have been in a state of perpetual reform since the early 1960s. Since then we have gone through at least one major reform every decade.

The expansive 1960s and 1970s

In the 1960s we introduced the English-American PhD and abolished the German *Habilitation* and *Licentiate* system, which meant fundamental changes both in research training and research education and in research organization/funding. It also profoundly changed the role of the professors who gradually had to turn from traditional German "Mandarins" into team coaches and research entrepreneurs.

To be able to cope with the massification process that started already in the late 1960s but accelerate in the 1970s, we turned our universities into an *internal* binary system where there was a sharp

division between research and teaching. In so doing, we also and actually created a dual academic career system of pure teaching and pure research. On the whole, and in the short run, one could say that the research part of the university benefited very much from this cleavage. But, in the long run, I maintain, that this division was a crucial administrative mistake because it disintegrated the institutional and cultural fabric of the academic unites and institutions. Accordingly, we had to revise this destructive policy in the 1980s so, at least formally, there are no longer any teaching-only positions in academic institutions distinguished by the name "universities".

In the 1970s we gradually started to differentiate the higher education system by introducing four university colleges. At first, these institutions were established as branches of the existing universities, so my present university at Örebro was, for instance, the Uppsala University extension. But in the late 1970s the former branches became independent undergraduate institutions. In addition to that, a number of regionally based university colleges were established, so, as of today, we have, in addition to 16 universities – including two technical, one medical, one business, and one agricultural university – all in all, 28 regional university colleges scattered all over the country. With a few exceptions these are teaching-only institutions on the Bachelor level. Also in the 1970s we introduced a home-brewed variety of the US modular, credit point system.

As far as research funding is concerned, the 1970s meant a substantial rise in funding but this expansion was not primarily in traditional basic research funding. Instead, the expansion took place in what we in Sweden usually call "sectorial funding" i.e. applied research. The money came from the respective sectors of politics (social, communication, education etc.) But the money, nevertheless and eventually, ended up in the university research system. And this, I think, might be another feature, which constitutes a similarity between the Israeli and Swedish research and science policy system. More than ninety percent of the research in Sweden is performed within and by the university system. In short, this means that Sweden has refrained from creating any kind of parallel, extramural Institute research sector.

Until recently, this concentration of resources and intellectual manpower has been considered to be not only rational but also a successful strategy for a small and research intensive country. But as of late we are beginning to realize that this unitary or homogenous strategy makes our research system very vulnerable to changes and dysfunctions in the higher education system. While high quality research in Germany, France and other countries could survive (and actually have survived), at least for a while, thanks to the independent research organisations of *Fraunhof-*, *Max-Planck-*, and *Hemholtz-*, and – in the French case – *CNRS*-institutes, even if their university systems gradually have become more and more dysfunctional, this alternative route would not be possible in Sweden (or Israel).

Given the present state of affairs, and even if one takes a certain number of excellent Weizmann Institutes into consideration, these two countries must, *at almost any cost*, keep their respective higher education systems in order if they want to remain internationally competitive in science and cutting-edge research. A decline of their university systems would not only disrupt the performance in higher *education*, it would also, eventually, mortally damage their *research* system. There is, of course, always the (enormously expensive) alternative to radically change our ways and declare that high quality science and research from now on will be carried out in extramural research institutes and that our universities will be turned into teaching institutions. But being a fairly old and value-conservative person I, personally, would not welcome such a solution, and, furthermore, I do very much doubt that this is a realistic option.

The reactive 1980s

The 1980s became something of an era of "re-academisation" when many of the reforms introduced in the previous decade were abolished or even reversed. The main part of these reforms had vocational or (social) "relevance" twists. Thus, practically everything in the university, all study programs, for instance, were supposed to be vocationally oriented, even in the humanities. But, facing a fierce academic opposition, the "responsible" politicians and bureaucrats realized they had to leave a "small window" of opportunity open for

students to choose so called ´"solitary" (traditional) academic courses, in different academic subjects.

The actual result of this "exceptional choice" was that the majority of the students, almost from the start, rejected the vocational and supposedly "regular" study programs. In the mid 1980s the situation had become almost ridiculous when only 10% of the students were choosing "the right way" and 90% of the students going the wrong way. Confronted with this reality, the social democratic minister of education decided to abolish this almost perverse form of compulsory "vocationalization" in 1988. At the same time the Swedish government also, at least in principle, started to abolish the equally disastrous dual career system, or divide, between teaching and research.

The revolutionary 1990s

The 1990s became, in almost every sense of the word, quite revolutionary in Swedish higher education and research funding. It started in 1993, when the universities and the state, at least partly, started to go their separate ways. Previously, the universities had been directly subordinate to the government and its powerful central authority, The National Board of Universities and Colleges. From now on the universities experienced a major wave of deregulation, which for instance gave them the right to hire and fire professors, which had previously been a prerogative of the government. Additionally, a system of individual salaries was introduced, which meant that the salary span, even within an institute or within a discipline, became quite considerable if not as big as in the US.

But the most significant change probably came in research funding, because the liberal-conservative government that came into power in the early 1990s used the existing social democratic "wage-earners" (pension) funds to establish five huge (in the Swedish setting) formally private foundations. These foundations should fund research in all areas – including the humanities and the social sciences, which I think is fairly unique. Thus, The Bank of Sweden Tercentenary Foundation, which is only promoting research in the humanities and social science, got approximately half-a-billion dollars, which probably makes it the largest foundation in Europe in the field of social sciences and humanities. The other large European foundations, as for instance, the

German *Volkswagen-Stiftung*, are, by and large, only giving a fraction of their money to these fields of research.

Simultaneously, we went from a system of primarily block grant funding to a system of competitive funding. This means that today 60 percent, on average, of the total resources allocated to the university sector in Sweden come in the form of so called competitive money. The traditional block grants have become a minority part of research funding. This has made a tremendous difference and resulted in an ongoing process of differentiation within the university system since your standing as a *research university* is to a very high degree measured by your ability to attract "external" or competitive money. In addition to get this money, the universities quite often have to come up with matching funds, and this had an enormous impact on the entire university system.

Up until 1995, one could say that Sweden (the Nordic countries) was an exception in Europe because its university system was not under-funded. But today, Sweden and also the other Nordic countries have, at least to some degree, been stumbling down the same downward road as the rest of continental European university systems, where the universities have been severely under-funded for at least 25 years. As an immediate consequence of this almost endemic under funding some European countries have started to introduce student fees – notably UK and some of the German *Länder.* This debate has become quite intense also in the Nordic countries where *free* higher education traditionally was considered to be almost a basic civil right. In Sweden fees for students outside the EU-area will be introduced in 2006.

***"Bononia docet"**[*] – once again*

Then there is the so called Bologna-Process, which is supposed to take-off in 2007, and which, eventually, will lead to profound structural changes in practically all European systems of higher education. The official motives behind these comprehensive, and by the politicians almost enthusiastically endorsed, reforms are to promote "transferability, transparency, mobility and employability". But being

[*] "Bologna lectures" was the inscription on medieval coins from Bologna

an old cynic of an historian, I suspect that the hidden political agenda behind the process is to force through quite dramatic – and in some cases certainly necessary – structural reforms in higher education, reforms that the different governments would never dare pushing through on the national level.

Bologna will, eventually, both lead to a higher degree of differentiation and to diversification in the hitherto formally homogenous and unitary European higher education systems. This, in turn, has led to rather intense discussions among higher education institutions concerning the need for strategic alliances. Subsequently, my own university is currently engaged in serious negotiations with a number of university colleges and universities on the possibilities of intensified collaboration and even mergers. Similar discussions, in different types of institutional constellations are presently going on all over Europe, and they will, in my opinion, lead to gradual reduction in the number of the university type of higher education institutions, not only in Sweden but also on the European continent. This development should not, however, automatically, be considered as "a bad thing". Quite the contrary! What Europe, among many other things, now desperately needs is a) a *larger and more diversified* tertiary level of education, and b) *fewer and adequately funded* research universities!

ROUND TABLE DISCUSSION II

"Can or Should a New Master Plan be Negotiated for Israeli Higher Education?"

"Can or Should a New Master Plan be Negotiated for Israeli Higher Education?"

Participants

- **Zehev Tadmor, Moderator**, Samuel Neaman Institute, Israel
- Arnon Bentur, Samuel Neaman Institute, Israel
- Joseph Bodenheimer, Jerusalem College of Technology, Israel
- Ithamar Gruenwald, Tel-Aviv University, Israel
- Hanoch Gutfreund, Hebrew University Jerusalem, Israel
- Shlomo Herskovic, Planning and Budgeting Committee, Council for Higher Education, Israel
- Joshua Jortner, Tel Aviv University, Israel
- Alex Keynan, Israeli Academy of Sciences, Israel
- Thorsten Nybom, Örebro University, Sweden
- Arza Ron, Western Galilee College, Israel
- Mordechai Schechter, Tel Hay Academic College, Israel
- Martin Trow, University of California, Berkeley, USA
- Meir Zadok, Israel Academy of Sciences and Humanities, Israel

Martin Trow

The floor is opened for questions, and I have a question for Thorsten Nybom: what is your demographic situation? How does it bear on the future demand, and could it be similar for other countries?

Thorsten Nybom

In Sweden, we have the highest birthrate in Europe among the Northern countries, but that does not tell you anything because we are in trouble anyway. In Italy and all the Catholic countries they are supposed to have children in abundance. They have no children. I don't know what they are doing there. I mean the demographic situation is roughly the same all over Europe and in 5-6 years every Professor in History will almost be retired, so the golden boys and girls are gone in the 40s, and that will place a tremendous strain on the system.

Alex Keynan
I was impressed with your analysis of what happened in Britain. One of the points that you made was that there was a kind of "top-down" reorganization of British universities, which were actually nearly passive in this reorganization process, and they had really very little, or no say in what was happening. Now we are going through a process here in which I think, at some stage, there will be a need for reorganization. I must say that we are not organized as a scientific community to deal with this kind of dialogue with government, and I think it is time that we got organized.

There is one thing which I got from this, that there is a need for a new dialogue about the future of higher education in this country. I think we, the members of the academic community, should actively participate in it and not wait until things are decided for us. For a while, we thought that the Planning and Budgeting Committee was, in a sense, representing the academic community, but this does not seem the case now, and this is one more reason why we have to get organized in this field.

Martin Trow
Organization is good, but that does not necessarily answer your question. The British had an organization, the Committee of Vice-Chancellors and Principles (CVCP). It was internally so divided among the leaders of the different kinds of institutions that it was totally passive and no use at all in this dialogue. So I don't urge you not to develop an organization, but to be sensitive to the possibility that it might be able to speak with something like a coordinated and consistent voice.

Hanoch Gutfreund
I would like to respond to that as well, because if there is anything that really impressed me at this meeting, including what Sarah's last remarks summarized so well, is the lack of any bottom-up processes in the last few years in the shaping up of our binary system compared to other places, and the need for that. As Alex Keynan pointed out, we are not well enough organized as a community to conduct such a dialogue. And, in the messages that Zehev made in his presentation about the crumbling central systems, he also emphasized the

crumbling of the only voluntary non statuary organization like the President Council. This really encourages me to think that, first of all, this kind of dialogue is necessary, and not only with the government, but also within the system. Moreover, I believe that the Bashaar organization (*a nonprofit organization of Israeli academics active in science education programs and lobbying to promote higher education, particularly in the peripheries*) has an even more important role to play, if it does it right and brings other representatives of the sector into the dialogue. Bashaar has already initiated much public debate and it has the respect of certain elements in the political system and in the different political parties, so I believe that following this conference we will have even greater incentive to continue what we have started to do and to do more of it in the future.

Zehev Tadmor

I fully agree with what Alex and Hanoch said. We do not have a dialogue among universities and colleges, which is the key issue in many respects. Unlike the example that Sarah gave, that we are all in the same "spaceship," I have a different analogy: a spaceship at least goes somewhere, but I think of it as more like the 'prisoners dilemma,' where, if we cooperate we both win, and if we don't we both lose. Regarding the colleges, it seems to me that, at least according to the presidents of colleges I have spoken with here and elsewhere, they understand this, and they are ready for a dialogue. Regarding the universities, on the other hand, it is more appropriate to apply the phrase that Thorsten used last night at dinner, "the arrogance of weakness," because they are not strong and they appear to be arrogant. They will need to shed that arrogance and begin cooperating and entering into a dialogue, because if that won't happen, we're both going to lose; certainly the trend is that unless we act the reshaping of the system will come top-down and both of us will suffer from it. So I think this is a very important lesson that I hope most of them learned.

It was fascinating to discover that the California Master Plan, which I was familiar with before, started through a dialogue from the bottom up, and it succeeded. If there is collaboration and understanding

between the 50 or 60 institutions today, no government, however ill-willed it may be, can stop that.

Alex Keynan

I would like to make one more point, and this is something for which I don't have an answer – it is more an open question. In Israel, at this point, we seem to be at a kind of a crossroads between science policy and academic policy. Our universities, which we consider to be world-class, would like to compete in the world, in the production of new knowledge and opening of new horizons. These universities, however, are under-funded. It is extremely difficult for top Israeli scientists to do their work here. Many of them are jumping from country to country, or are trying to cooperate in all different ways, because the Israeli universities in general are sub-optimal, and are under-financed for research purposes. The infrastructure which they were able to create, especially in my field of molecular biology, which is advancing tremendously, requires new equipment all the time, and is very difficult to keep up. We currently have seven universities, and someone came up today and said we should have more. I think this would be very counterproductive.

Currently most research work is done by doctoral and post-doctoral students. We are actually creating more post-doctoral students than we can accept here as teachers in this country. To some extent, we are exporting minds abroad. Now we have science policy which would like to compete with the world, academic policy which will not finance it, and, to some extent, we over-produce scientists. In the comprehensive policy framework, these things should have been addressed. There is actually no forum in this country at this stage which can address these issues.

Joseph Bodenheimer

I would like to make several comments: one of them is that I am very encouraged to hear that at least former heads of universities are prepared to enter into a dialogue with non-universities. This is the first time I have heard this. At this point I am only hearing it from former heads of academic institutions, but I hope that, eventually, we will hear it from presidents of universities themselves.

The second thing is the suggestion that was made, and I would like to take that up immediately, that we should enter into a dialogue, not an organization, between the various institutes of higher education in Israel. I think that I can speak in the name of the non-university institutions, in accepting that willingly, and I would suggest either Bashaar, or the Neaman Institute, which has very graciously hosted us here, be the venue – one of the two.

Finally I would like to say that we have heard various analyses of the situation. I think if we are to make progress, we have to examine what the agendas of each one of these groups are, and only when we understand the agendas, and realize that we can maintain and fulfill them, will we really be able to get together and do something meaningful. Then, I am sure, the Council for Higher Education and the Planning and Budgeting Committee will be delighted to follow.

Mordechai Schechter

I wish I could be as optimistic as you are, Zehev. When we organized this conference, one major purpose was to bring experts from abroad and to try to learn from the mistakes and the successes of other higher education systems. I think that part was very successfully achieved. The question is what's next, because people are asking if there will be policy recommendations and so on and so forth.

Another one of the purposes was to have the system of higher education here in Israel listen to us. Now look around us: how many people from the Planning and Budgeting Committee do you see? The chairman was here for one day, but what about the people who make up the committee? How many people from the Council of Higher Education were here? These are the people who make decisions every day on accreditation, on budgets. Do they know everything so that they can afford not to come here and listen, or at least to take part in the deliberations? Their absence makes me pessimistic, because they are the very people that will have to make the decisions! About the presidents of universities and so on and so forth, there is a reason that some of them are not here, but I am talking about the people who make the decisions for the system.

Sarah (Guri-Rosenblit) made several points in the Report of the Rapporteurs. One of them, I think, should have been brought to the top and this is the issue of being proactive. Why do we have to go

through the same mistakes that all the others have made, when we have ready-made, off the shelf, solutions that we can adapt to our needs? Why do we have to wait 50 years and go from one catastrophe to another? It is not just a matter of funding. We have 53 colleges, with the universities. Even the seven universities themselves would never merge to one University of California, but that is beside the point.

We have too many colleges, period. They were established because of local and political interests, but with no logic whatsoever. Even in the Council of Higher Education and the Planning and Budgeting Committee, they know that some of them either have to close down or to merge, but they will not do it. I have gone now through two attempts to merge colleges; unfortunately, it will not happen from below. It will simply come from experience, hands-on experience. The only people who can do it are from above, and they have to be proactive in that. I, as well as others, have been saying to them to do something about it, because we are wasting people's money, because some of the funds could be put to much better use in the higher education system.

Now I am not going to talk here about all the idiosyncrasies of the system itself. Professor Birk asked David Gardner this morning about the promotion system, which is crazy, particularly with regard to the colleges. We are talking about hundreds, or thousands, if not more, of scientists who teach in the colleges; they teach a load of 50%, which is 50% higher than their counterparts at universities, their pay is 30% lower than the universities, and they are asked to perform exactly the same as their university counterparts. We asked the committees that award professorships to set out what the criteria are for promotions in colleges, and to this day they have not answered, so these people don't even know what is expected of them. This is very rich human capital that is being wasted away, and nobody is doing anything about it. What we need is leadership, and unfortunately I don't see it around.

Arnon Bentur

Listening to Moti sounds like a typical Friday social evening in Israel, where everyone is crying about the system. Unfortunately the system is not going to do anything, and I think that what we can take from a meeting of this kind is an understanding of what we can try to do and

push towards; we know from experience that this is not one step. We have to try and push from below, and keep pushing until we make a dent. Sometimes, and maybe most times, we won't succeed in making a dent, but we still have to try and do it, and the question is what do we do? We have been talking here about the importance of dialogue, but it seems to me the first thing that we should do, and somehow we have not addressed it properly, is to define what the missions of the higher education system are.

We are talking about mass higher education, and we are teaching the masses: what are we going to teach them? What are the needs? It was mentioned with regard to the colleges that there is an issue of professional education, so what is the mission of the colleges? When the colleges were founded, it was claimed that their mission is going to be different. I don't know to what extent that has been defined. Perhaps we cannot expect the government or the Higher Education Council to define it and do it on their own, which is their job, but maybe we should sit together and try to do it. One of the questions we have here is how do the colleges become universities. So if they want to become universities, that is a different mission.

What I am saying is, I don't have the answers right now, but the first thing that we should do is try to identify the missions: the missions of the different bodies, of the universities and the colleges, and try to work from there on.

Certainly we should have a much better dialogue between the universities and the colleges. We could think about some initial steps that we can take before taking organizational steps, which are more difficult. Some examples have been mentioned here, such as the system whereby college graduates could go to universities. That is something that can be addressed at the level of the universities, and you don't need the Council of Higher Education to make decisions for the universities. Another example is to determine how college professors or college teachers can participate in research which is done in universities.

Again, these are steps that can be taken without any higher up decisions, so I think we should be trying to work at two levels: first of all, to look at the system as a whole, and determine what the missions are, what are the implications and what are the derivatives. Secondly, on a more acute level, we need to see what kind of steps we can take

right now to make the system a little more coherent and build up some trust between the two types of organizations to be able to come up with a common plan.

I agree with Moti that we certainly cannot expect that the Council of Higher Education will do it for us. Moti mentioned the example of the promotion committee which has not articulated what the criteria are for promotion; why don't the colleges that have their own organizations write up what they think the criteria should be and bring it to the Council. Maybe they could have an influence, and that's the only way to go right now. We cannot expect anything from higher up to happen, and if we wait, we put ourselves in the exact same situation as when the Treasury Ministry intervened to enforce changes on the universities' government system. Seven or eight years ago, the Malz Committee told us that there are some changes that need to be made. We are universities, we are funded by public money and we have accountability. They were telling us: we think something is wrong. Their report had many good things and many bad things, but the bottom line said: each university is different. Look into yourself, make the changes as you think are right. None of the universities responded or did anything and that is what happened.

So we can sit here and complain about the Ministry of Treasury, but we did not take all the measures that were necessary to prevent such intervention, and we should learn from that lesson. We can do things and we can start from the bottom; it is not easy and it doesn't guarantee success, but that is what we have to do.

Joshua Jortner

In our discussion, I have the feeling that we have too many exclamation marks and too few question marks. I am very grateful to those who came to attend this meeting from abroad, and to paraphrase, I would formulate the Israeli challenge as a transition from an elite to a mass higher education system, but with one addition. To do it while maintaining a high level research system; this is crucial for Israel and it is not always done.

As we talk about the broad goals, Haim Harari put them in a very readable way; I put them in terms of "ten commandments," which really span the whole spectrum of the national and international obligations of Israeli researchers. Now we come to research in this

definition, and the majority of basic research is the sole function of the universities. The universities are moving to industrial research and to start-up companies, and it is imperative for the State of Israel, which is a young nation and is at a crossroad of "nation building," as Henry Rosovsky said, to extend the research infrastructure. There are, however, very severe funding restraints and budget cuts. Then we have another issue which is optimization of resources on the national level, and we are competing with school education. Now I don't know to whom I will give more supplements, to elementary and high schools or to the university system. We compete with extremely severe social needs, and compete with defense, where, even after peace agreements we shall need the defense budget for the next 100 years or so.

So the name of the game, my friends, will be to optimize the resources, and we have one great advantage. We have the autonomy to allocate funds to the higher education system, which is still to a large extent autonomous from government intervention. If we won't do it, and here I agree with much of what you have said, in 5 years this will be over, so this is extremely important.

This brings me to implications for structural function, and yesterday, with your permission Mr. Chairman, there were some observations pointing to fear and anxiety. I don't think that I should be blamed for that, neither should my friends here. There is a deep concern that in ten years we shall have 55 mediocre universities, and this is not a slogan, my friends. We know the processes in this country, and this has to be avoided at all cost, not because the universities want a bigger chunk of the budget. I don't think I was ever blamed for just asking for a "chunk of budget," but we must meet the national policy, fulfill the national goals and the international scientific goals of the higher education system, so the goals dictate different structures, functions and services of the college system and of the research university system.

In summary, Leslie said something that we call in Hebrew בעזרת השם, which means in good English "change the name and then you will have a solution." In Hebrew it also means "with the help of God," so בעזרת השם changing the name to university and leaving it as a college and expecting a research university, I don't think that is a solution. I think the solution is to provide the checks and balances for

different levels of education in the research universities and the colleges, and to have the research centered in the universities.

I will not go into details regarding if there is an outstanding college professor, what should he do? Maybe he should move to a university or focus his research in the university. In the University of California it happened, and I think that this will be the service of the nation. Now, regarding how to implement it, I will say only one thing, which perhaps I did not express clearly yesterday: 30 years ago there was a national committee which worked beautifully for the higher education system of Israel until 1979. It is time now to reexamine and to open this box: I will not say "Pandora's Box," but this box, and start examining the system.

With all my deep respect to Bashaar, I don't think, and Zehev I am sure will agree with me, that the authority and the impact will come from our report. Our report should be a catalyst, as one chemist says to another, it has to be a national effort on the national level and I hope that this it will be.

Hanoch Gutfreund
With the agreement of the Chairman and Zehev, let me just announce the procedure on which we have agreed. What is suggested is that the seven people who asked to speak: Meir, Arza, Dan, Neal, Shlomo, Itamar, and Sheldon, will be given two minutes each, and then, after that we will pose the final questions for remarks.

Arza Ron
At the risk that I won't be welcome when I return tomorrow to my college, I would venture to say that I don't believe that colleges are "baby universities" which, when they grow up, become universities. Unfortunately I also don't believe that all children can be above average height or whatever, so I accept that each college should give its own service.

Somebody asked what the colleges achieved, and I think that the main thing was availability of higher education to the periphery and to students for whom it might not otherwise be accessible. Accessibility cannot always come with excellence, which is what local people cannot accept, but I think that each one of the colleges should be allowed to be excellent in one area, in addition to providing an

education to those who maybe could not, and even should not, get into universities.

My college is in an area of Israel where most of the population is non-Jewish, and many of our students are disadvantaged regarding languages. Sometimes, I suspect that some students don't even know Arabic well, because they have to learn four languages before they even start their higher education. Yet I find that when they graduate, they are so much different than when they started. I think it is a national task to give higher education to these individuals – it is good for them as people, and if we go according to the criterion of the lecture of Henry Rosovski, it makes a huge positive effect on the communities as well. So I think that there are some colleges that are good even in research, and if they carry out good research, they should be allowed to continue.

Meir Zadok

I prefer not to talk to myself, and the people here are, I think, in the same group - we have been talking to each other for many years. Just to remind you, in '95, the magnificent seven, with Martin and Thorsten and Guy Neave, and Sheldon of course, were here with the reinforcement of different people, at the Van Leer Foundation. The Van Leer at that time offered a platform to be what the Samuel Neaman Institute is trying to do, so my suggestion is, if not Bashaar, I think the Neaman Institute should try to take over what Van Leer has not done for years, and offer this platform.

First of all, we are talking to each other and, believe it or not, treasury people, college people and even ex-presidents of universities are now accepting the colleges. This is also a major step. As Bodenheimer mentioned, ex-presidents of universities are now accepting the colleges, so there are some changes. Historically this was something which is typical to Israel: the universities were against the establishment of the Planning and Budgeting Committee, they were against the colleges, and to some extent they were reluctant when the Israeli Science Foundation was established, so I think it is about time for us to find a way of talking to each other. At least we are consistent.

Nadav Liron suggested that the Neaman Institute should be a platform for future discussions. I will certainly ask the magnificent

seven or eight to carry along with us and help us in the future too. The Academy, of which I am the director, is certainly ready to be part of this future discussion. Nadav Liron offered his offices and I hope that, together with the Planning and Budgeting Committee, the universities and the colleges, we can form something that will maintain the dialogue. We cannot do it without the assistance of foreign, should I say, forces, and I relate to you as foreign forces in that sense, because you make us talk to each other.

The other thing I think should come out of this meeting is some kind of plan - I don't know want to call it a Master Plan because that is too technical. We should have your assistance to get some guidelines for future development. I think we need it from the inside because of an example I can give you from the Academy. We had the Minister of Science who, by force, actually appointed a committee to look into the Academy, which is unheard of in the Western world. So instead of sitting and expecting some kind of external committee, we should initiate something of our own, and it is better for us to do it now than to find ourselves, in the next two or three or four years, contending with external forces who are investigating and not advising, so this is for our own good.

Shlomo Herskovic

I would like to make a statement. Shlomo Grossman, who couldn't be here today, asked me to apologize, but what I am going to say is in no way to be understood as being apologetic; I would like to give my own personal interpretation of what has happened in Israel over the last 15-20 years in terms of the "massification" of higher education, and perhaps bring a broader understanding for our foreign guests about what the situation is in Israel, what has really changed, and why perhaps there is such a deep concern about what is going on.

The "massification" of higher education in Israel began in the 1990s in what was, on the whole, a planned process. Most of the new institutions were planned by the Planning and Budgeting Committee well in advance of their opening, based on geographical distribution of the students, and we made very major changes in the breakdown of Israeli students, which resulted in there being some non-funded institutions. There are perhaps 11 or 12 non-funded institutions which we have no jurisdiction over in terms of planning or budgeting; once

they meet the minimum academic requirements, they can open up according to our laws.

We also have at the present time a separate system of teacher training colleges, which today comprises 24 institutions, and is currently undergoing a major reform. We are hoping that their number will be reduced to 12, although we don't know exactly what they are going to look like. This is, at the present state, a very important issue.

The "massification" of higher education has more than tripled the number of students in Israel. It has had a major impact on colleges as we mentioned, but it also has made a major impact on the universities, because "massification," as was mentioned here, brings many problems along with it, among them a lack of budgets. The lack of budgeting brings about a commercialization of higher education, even in our best universities. Perhaps the best illustration of the commercialization of higher education is what has gone on in terms of the Master's degree programs. In 1991, 73% of all graduates of Master's degree programs graduated on the thesis track, or on the research track. Today barely one-third of the students graduate on a teachers track and we have had a tremendous increase – more than 3/4 – in the number of Master's degree recipients, including those who are finishing without a thesis, in special programs designed to meet specific audiences. There is no doubt that there is a problem here.

I would mention another effect of the "massification" of higher education, and that has to do with the good piece of work that Hanoch has done as the Chairman of the Committee on University Industry Relations. One of the recommendations, which we are still discussing and I am not so happy about, suggests that, in terms of what is happening in Europe, we should give equal status, alongside teaching and research, to the commercialization of research results. I think this has also come about as a result of the universities trying to look for additional funding sources in a period when traditional funding sources are not available. I am looking at it as a trend.

This has also had an impact on the Planning and Budgeting Committee, and I think that until 1997, we were in a very, very unique situation in Israel. The Planning and Budgeting Committee was established on the model of the UGC, the University Grants Committee in the UK, as a buffer organization between the

universities and the government in order to protect the academic freedom of the universities. Up until 1995 and 1996 we worked in total solitude. Nobody interfered in the work of the Planning and Budgeting Committee. The Treasury gave the funds and was quiet. The Council for Higher Education, to which we were responsible, let us do our work undisturbed. The Minister of Education, whoever he was and from whichever party he was, was quiet about what was going on in the Planning and Budgeting Committee and let us do our work with little or no interference from the outside.

I think this was an extremely unique situation, and one that could not continue. One other thing that happened during this period was that, even in the beginning, up into 1997, even though we had more than doubled the number of students in the system, a higher percentage of the budgets of the universities came from the government. In other words, in the period of tremendous growth, with the percentage of funds coming from the government, the universities budget was actually growing.

This was also something which could not continue indefinitely, and the changes began to happen, I believe, around 1997 with the report from the Controller General מבקר המדינה, who actually chastised the Council for Higher Education, the Treasury, and perhaps even the Minister of Education for not interfering in what we were doing. We were spending billions of Shekels with no interference, with no one looking at what we were doing, and he was actually chastising them for not doing their work, for sitting on the sidelines and not doing anything.

Since then the situation has changed tremendously. All the players in the system are now beginning to actively get involved in what we are doing. The budget for higher education is one line at 1.4 billion dollars, with no breakdown. You cannot have that kind of a budget in a system without politicians putting their eyes on it and trying to get their share of it. The needs for transparency and accountability would eventually have arisen, and have changed the situation and the players immediately around us tremendously. We are not as free as we were in the past to act and to lead, but I would also contend that the only reason for our existence as a buffer organization is if we provide a function for the Treasury and a function for the universities on the other side. If we do not provide those functions, then very

quickly we'll end up like the buffer organization in Australia until 1990 which disappeared after half a year of debate. We will definitely go the way of the UGC and the HEFCA, which is now more or less a Department of the Ministry of Education.

I would contend that today, even with all the pressing problems and concerns, we are providing a true buffer function between the universities and the governments, and that we are planning to continue this function as long as we can, as long as we have the minimum amount of credibility within the system and with the government. Thank you.

Ithamar Gruenwald

I think one of the points that such a meeting should really reach is a consensus on good will, cooperation, good faith, and hope for the future. Unfortunately, and in some sense I disagree with what we have just heard, the problem of Israeli academic life today is of course a problem of budget, structure, and restructuring, but there is also a pervasive spirit of distrust, suspicion, disinformation and, I would say, despair. And I think I am not overstating the situation; people really go around in campuses not knowing exactly what the future of their own institution will be. As was mentioned, there is no leadership which will point where we're going. There is too much diversity between the universities, antagonism between the various structures of higher education and so on and so forth.

I don't know whether we have a solution, but I would like to say one word on behalf of what we're doing in Bashaar, and perhaps may do in the future in the Neaman Institute. I think we are really in need of some kind of an ongoing dialogue with the guests that came. I am on the committee of Bashaar that is doing some work on the future of higher education, and we discussed over lunch that this dialogue should go on. I have just coordinated with the chair of this committee regarding encouraging the ongoing dialogue in the future between the various participants, who could probably bring in ideas, some kind of guidance and cooperation and support. This is especially important now, when the academic position needs strengthening in the face of politicians who are on a kind of wave of fighting the elite. If we can go on with this dialogue in the future, this would be a very helpful contribution.

Sheldon Rothblatt

I don't really pretend to speak with the voice of one of the Jewish prophets, but you do recall that on Shabbat, if the הפטרה (Haftorah) reading is from the prophecies, and it ends in the original in the negative, we add another passage to make it in the positive. I would like our Israeli family, colleagues and friends to recognize their extraordinary achievements in creating, or having been part of the creation of a vigorous and dynamic system of higher education developing under their noses without their even knowing it, but these are the ways in which השם (G-d) works, as you know.

It may appear to you to be a בלגן (mess) and it is, in fact, a בלגן. I am going to mix my metaphors from different positions. A בלגן exists when the genie escapes from the bottle. We have come to show you that in the last 50 years, in every one of the advanced countries, with the slight except in the United States for different reasons, it is a mess, once the whole process of "massification" begins. This is what Shlomo was talking about, but Shlomo was defending his party, and I think that is fine; defending, attacking, accusing, making proposals for the future of betterments of mankind, all of that comes out of this mess. Barton warned us earlier, and Ulrich Teichler, I think, must have been ironic in his presentation when he gives you all these theories of how to try to understand whether systems are converging, whether they are hierarchical, whether an elite is destroyed, or whether an elite system is being created. Bologna, "Shmologna." You know, it all comes out, and this is exactly, historically, what happens.

So Israel I do think is absolutely a unique country. I also think Australia is unique. Sweden is unique, we are all unique, and every country says that of itself. All are going through, or have to go through this process; once the decision is made for social or for economic reasons, to start to move forward in a democratic society. This is the inevitable process, do not despair: take hope from the prophets. And thank you for being as you always are, exciting and wonderful to us.

Martin Trow

There is a folk story in every language that I know, and you have all heard it. It is the story of the man who was driving along and doesn't

know where he is. He stops and asks the local chap: 'can you tell me how to get to New Haven?' And the local man says to him: 'well, if I ever go to New-Haven, I would not start from here.' I can only say: wherever you all are going, you all like to travel, and going, you have to start from here.

Zehev Tadmor

I think the subject of the Round-Table discussion, or the question posed to us, was really, if we can hammer out a new Master Plan for the higher education system in Israel. We will not start that debate now but I think we have answered part of it in this discussion and in the past two days. I am rather optimistic that we can work out a new kind of agreement, understanding, and אמנה (trust) within the system along the lines that Arnon Bentur and others described. I am glad that Nadav volunteered our Institute to be a platform for doing it, and we have to remember two things:

1. That the future of this country depends on science and that science is being carried out in the research universities. This as the foundation of Israeli science policy. Systematically and on purpose we have not built research institutes, because we are a small country and there was always a sense that if we build one, it will quickly deteriorate to mediocrity, and universities, because of their very nature, can be maintain excellence. So we must retain that.

2. Second, that in the future, the next wave of innovation and the future of economy will not depend on what happens in the defense organizations. It will not rest exclusively on electronics and communications and computers, but on chemistry and biology as well, and that come from universities. Thus, unless we retain and maintain our scientific basis – we have no future.

We distributed a brochure, prepared by Gideon Czapski, which uses bibliometric methods to show the accomplishments and status of Israeli science. While it is not complete, it does give an indication, as far as the past is concerned, of the good results which have been achieved. You can say that much of the research is not good, but the facts don't support that. Israeli science, based on the currently reviewed methods, has indeed provided good results so far.

What we are concerned about now is how to retain that in the future. At the same time we are deeply concerned about the future of the whole higher education system; we need to ensure that it is accessible and responsive to the needs of the broader society, yet not in disregard of the needs of universities to maintain excellence in research. There needs to be a dialogue and understanding, and in particular an arrangement where students can move freely within the system, which is very important, considering the problem of ethnic background.

I am still concerned, of course, by what is happening, and I think the press has already picked that up because they already interviewed me twice; I will be feeling the reverberations very soon from the Ministry of Education and elsewhere. Yet the results of this conference leave me hopeful, because I think the dialogue has already started.

Having you, our guests from abroad is extremely useful. Meir is right in observing that your presence is a necessary ingredient because you not only catalyze the discussion within the country, but you also bring in outstanding experience and knowledge on higher education systems elsewhere and that focuses our vision. Discussion and arguments are very good, because only through arguments and dialogue, which offer resistance, can one shape focused ideas and make sense of things.

EPILOGUE

Post-Conference Impressions and Concerns

POST-CONFERENCE IMPRESSIONS AND CONCERNS

February 2, 2005

Professor Zehev Tadmor
The Technion and the Neaman Institute

Dear Zehev,

This is a letter from all those who were present in Haifa[*]. I have undertaken to produce a draft, but it is absolutely from all of us and represents our combined views. We have not differed on any major point, or for that matter, on hardly any minor point. We have been discussing the meetings among ourselves, and an early version of this communication made the rounds of the group. I am writing it in the form of a letter because, after gathering the sentiments of our group, I decided that probably an informal letter to you was the best way to express our joint impressions and concerns. That seems in keeping with the way several of us interacted with you over the few years that the program was worked on, and – the analogy that follows is of course far-fetched – an open letter was the form chosen by Lord Balfour when over 80 years ago he wrote to Lord Rothschild about the formation of a Jewish Home in what was then British Mandate Palestine! But although our remarks take the semblance of a private letter, it is, like the Balfour Declaration itself, an open one. We know that you will share its contents widely as appropriate, to include those who regrettably were not in attendance but definitely should have been.

Let us start with a point made at the meetings but perhaps not appreciated or understood by all of our Israeli colleagues. Doubtless Israel is in a hundred ways a unique nation, a modern nation created and grafted upon a special ancient world heritage. Yet contemporary Israel also exhibits all of the features of a modern, democratic, industrial and high-tech economy. Since higher education today is

[*] Grant Harman, Guy Neave, Pier Paolo Giglioli, Thorsten Nybom, Leslie Wagner and Martin Trow

absolutely at the center of polity, society and economy in all the developed democracies, the Israeli world of higher education is undergoing experiences that are similar if not absolutely identical to other countries. That point was made repeatedly in the meetings, as speaker after speaker from abroad discussed how their own societies had undergone or dealt with problems such as the funding of higher education, the differentiation of their national systems into a variety of institutional types and models, student access and financial aid or loans, academic and research quality, the governance of higher education, industry-university connections, the role of governments, the changing structure and authority of the professoriate and other teaching ranks and the securing or ignoring of public opinion. The contradictory nature of government policy in the mature democracies over the past 20 years was often referenced, how privatization or market policies had clashed with *de facto* greater control over higher education by governments, although sometimes "disguised" as the "steering" of systems. Targeted research versus "blue skies" research, a new way of putting the old issue of applied versus basic scientific research, has also been an issue throughout the western world.

The point is that whereas by virtue of history, or something that we might call national values, the solutions to the manifold problems of maintaining an effective, high-quality and responsible higher education system under the conditions of compound pressures will vary, the array of problems is nevertheless common to all. Israel may well seek a unique solution to a common set of difficulties; but the country also has much to gain from thinking of itself as part of an international educational community of shared challenges. This is in part reassuring. There are other national experiences worth understanding. Part of that understanding is to realize that Israel is facing developments that any modern nation must face or has already faced. From a policy perspective, it is not helpful for the country to continue to think of itself as so far different from other countries as to altogether ignore their pertinent experiences or outcomes.

However, let me mention a seemingly perversely opposite perspective that nevertheless reinforces our principal emphasis on the national context of Israel's provision for higher education. One member of our group suggests that in several academic ways, Israeli scholars and scientists do not consider themselves as unique at all but

as deeply embedded in an international collection of invisible colleges, reinforced by manifold connections to the Jewish Diaspora. This very rich and pervasive internationalism, our colleague suggests, is preventing the Israeli academic communities from addressing national higher education policy issues. They peer outward rather than inward. The very cosmopolitanism of Israel's science and scholarship, thriving upon numerous international schools of thought, has drawn attention away from immediate and local issues regarding the allocation of roles and missions for colleges and universities. However, that very internationalism, he goes on to speculate, is so fragmented by discipline – in the customary academic fashion – that attention is rarely directed to the broader institutional issues that are the realm of higher education policy. From this interesting viewpoint, the problem is that Israeli academics do not see how unique they actually are or ought to be. In short, with respect to the structure of higher education, Israel remains insufficiently *nationalistic*!

In most countries higher education policy is made by central governments. We think it fair to say that irrespective of country many academics today distrust the long reach of centralized government. That has always been the American view, which is why David Gardner, in his telecommunications interview, stressed the bottom-up origins of the California Master Plan for Higher Education of 1960. The diversified higher education community, after much internal conflict, finally was brought to realize that unless it joined together in rationalizing a network of colleges and universities that had grown up willy-nilly, the politicians would intervene and impose a solution. That is a lesson that some European academics learned belatedly. But insofar as in all countries the state is the principal buyer of research and much of the teaching, academics have to develop the instruments of negotiation and acquire a language for discussing public issues. Attempting to rely on shopworn notions of academic freedom or institutional autonomy is simply not politic. Of course we all believe in these and must try to demonstrate why the health of a modern society critically depends upon them. But there is no such thing as absolute academic freedom or absolute institutional autonomy. One can even argue that these are undermined as much from the inside of the university system by intellectual intolerance and ideological browbeating as from the outside. The maintenance of academic

liberties and privileges requires negotiation and tradeoffs both within and outside the academy.

We mention such points at the risk of speaking platitudes. Yet we came away from the Haifa meetings with the very strong feeling that the academic communities as a whole, apart from individuals such as yourself, had not given much thought as to how to institutionalize discussions between government and the universities and how to define the national interest in ways that can be made appealing to the overall public. There was a day in the early years of the founding of the State of Israel when universities thought of themselves as *habonim*, as "builders" of the fundamental secular institutions of the "old-new land," joining in partnership with agriculture, the army, the social workers, industry. Our suspicion is that while such connections obviously remain, they may not be as intense as in the earlier years. If this is a correct speculation, then new alliances and social contracts need to be made. They will have to be made in any case because the general public is becoming more important in higher education in Israel than ever before. That is also a lesson to be drawn from other national experiences. The press has become more interested in higher education for the obvious reasons that mass access higher education has occurred, that taxes are required to meet large expenditures and that parents have a natural interest in the welfare of their children. The relentless desire on the part of journalists to ventilate information that has hitherto lain secure in the realm of academic elites is a reality in all contemporary societies. In private chats with our Israeli colleagues, several of us gathered the impression that a conception of the "public interest" was not yet well understood within the academic communities in Israel and that any attempt to place the university case before the public was prejudged as futile. That does not appear to be terribly far-sighted. We can understand that previous efforts may have failed. We appreciate how daunting the task must be. Nevertheless, a start has to be made somewhere, and it must be made now in the new context of mass access post-compulsory education.

A preliminary start should be the development of an academic community that speaks with something resembling a common voice, or a common, coherent and reasonable voice. The absence of community, well-known to observers such as yourself, considerably disturbed us. Not only does Israel exhibit the classic divisions

between disciplines, especially the "two cultures" of science and the humanities, with scientists being more inclined to openly protest government policies perceived as inimical. It exhibits a conflict between the different segments of the higher education system, between the universities accustomed to high prestige and international norms of achievement, and the colleges, the newcomers, whose growth has been fairly rapid throughout the 1990s and whose presence in the economy and society deserves full recognition and academic support. At another international meeting in which some of us participated, held at the Van Leer Jerusalem institute and titled "Rethinking Higher Education," we strongly expressed the need for the universities to reach out to what was then a fledgling sector of diverse teaching colleges with technical training functions. We called for "special attention" to be given to "the development of a non-university sector in Israel." We observed "that a new generation of college academic leaders are emerging who would welcome systematic discussion and the exchange of views on their roles and mission." I refer to remarks contained in a summary dated June 27, 1995, nearly a decade ago. Those of us who recall that meeting note with sadness that the necessary lesson was not adequately learned.

The existing divisions and tensions between the members of the university and college segments can only undermine the strength of the entire higher education system, nobbling all negotiations and discussions with politicians. To be divided means to be conquered. The seriousness of this situation cannot be exaggerated. At the beginning of the twenty-first century, and in light of the experiences of other nations, no excuse can be found for a failure for all representatives of higher education to develop the values and ideas essential to a viable ***national system*** of higher education. Of course disagreements will remain, but that is hardly the point. The point is to join together in discovering and expressing the essential elements of a comprehensive educational system.

What does this require? Put simply, again calling upon the experiences of other nations, including the failures, it requires a generous vision of the place of all kinds of higher education institutions in a modern nation. Plural, heterogeneous, multi-ethnic, multi-religious, multi-tasking contemporary societies require correspondingly diverse higher education institutions, whatever they

are called (and probably less fuss should be made over exactly what they are called): distance universities, technical institutes, polytechnics, business schools, liberal arts colleges, research universities or research-led institutions. It is not possible – it has never been possible – for a higher education system to be entirely composed of one kind of institution, especially the research model, which, along with the collegiate type of university (Oxford or Cambridge) is the most expensive available form. A society may be able to afford a few of these, but an entire national system cannot be composed of them. As the demand for post-compulsory education will not flag, debates about capping demand are fruitless. The numbers seeking more education need to be accommodated, and the way to accommodate them is by encouraging the development of variable cost, flexible programs of instruction and training.

Recognition of a diversified system offering a range of courses priced at different levels is not only a necessity but a moral obligation inherent in a democratic society. If for no other reason, some form of advanced education is essential for the exercise of the duties of citizenship. It is also the case that the range of motivations and ambitions and skills distributed within contemporary society requires different educational menus: part-time instruction; open universities and distance learning; what the British call "sandwich courses" or "cooperative education" (a mix of employment and study); liberal, vocational and technical courses and so on. Not all students will want to go beyond a first degree or an M.A. Many will not even want that much. Any number will drop out early and return later. Certainly just a limited percentage will want to undergo training for research. A similar observation applies to those who are recruited to the academic profession. Not all wish to be researchers. That is the experience of virtually all of our societies.

Yet all who teach deserve recognition and rewards appropriate to their mission. There are further good reasons why in cases of demonstrated interest and ability a certain amount of cross-movement can and should occur between universities and colleges: for students as part of a transfer function where feasible, for academics as a way of including college teachers on research teams. The fluidity between university, society, government and industry that is so characteristic

today suggests that institutional and personal flexibility is a worthy goal for higher education viewed in its totality.

In short, the snobbery and sense of superiority that have long characterized American, European or Israeli research-led universities are detrimental to the development of the sense of a national higher education system, of a functional society but not Plato's where the social ranks are permanently frozen. For those who worry that the expansion of higher education along college lines will detract from the standing of the research university, or will encourage educational mediocrity, we strongly urge the adoption of an historical answer. Yes, it is true that every contemporary society requires an elite sector where selection is undertaken on a meritocratic basis. But that selectivity will not occur – it will not be allowed to occur – unless everyone seeking higher education is provided with a chance, but not necessarily the same chance because not everyone wants the exact same chance. Educational markets segment themselves. The *legitimacy* – may we stress that word? – the legitimacy of highly selective institutions is today determined by the existence of a large range of accessible colleges. Without them, excellence cannot exist in a universe of numbers. The pressure on a handful of universities from a multitude clamoring for inclusion would be destructive in the absence of other outlets. The consequences of a narrow conception of higher education are dire, resulting in generalized anger, a feeling of betrayal and the spread of a nasty and destructive populism. Voters will force governments to intervene. We must insist upon these possibilities and warn against them.

But it is important to state that differentiation may also require limits on the tendency of first–degree institutions to drift upwards, or attempt to drift upwards, into the more expensive category of research-dominant universities. This is a phenomenon that can be studied in the history of any number of countries and is inspired by the search for prestige and by the successful output of doctoral-granting universities, not all of whose graduates with higher degrees can be absorbed into the research sector. The California Master Plan disallows academic drift by insisting upon mission-financing and mission-defined norms of excellence. Efforts by the four- and five-year segments to alter their standing have thus far proven unsuccessful, especially since legislators are understandably reluctant to incur the

higher cost. While not every institution or campus leader is perfectly content with the historic Plan, none is able to conceive of an argument against it, and all recognize the reasons for its survival.

Those in Israel who fear that the burgeoning college segment will attempt to drift upwards in the hierarchy have some cause for concern. Yet the great variety of institutions represented in the college segment, and the social commitments of places such as Hadassah College, which began privately, suggest that colleges have already developed their own objectives and are responding to markets where degrees higher than the B.A. or the M.A. are largely irrelevant. They are also responding to the needs of students in non-degree vocational courses who form such an important segment in any nation's spread of labor markets. The large numbers of such students in post-school vocational and technical education in Israel cannot be left out of higher education policy discussions.

The considerable range of career demands made by students today is exactly what we would expect from the experience of other nations. Martin Trow's paper, *On Mass Higher Education and Institutional Diversity*, distributed by the Samuel Neaman Institute, provides a detailed analysis of diversification issues. Guy Neave's presentation to the meetings, *Mass Higher Education and the Research University*, reviews the difficult historical transition to diversification in Europe. Pier Paolo Giglioli's presentation outlined the consequences of the failure of Italian universities and governments to handle the mass education phenomenon. Giglioli has explained how Italian egalitarianism perceived differentiation as an invitation to inequality and inequity. Italian academics have, for other reasons, been disinclined to consider alternative higher education models that did not correspond to the Humboldtian paradigm of the union of teaching and research. Expansion therefore occurred in the elite sector, with the famous or infamous result of overcrowded classrooms and the proliferation of new and underfunded campuses on the accepted model. Surely the vaunted high standards could not be maintained under such conditions? Social class distinctions have also entered into the Italian picture, since disadvantaged students are thought to be wary of entering institutions perceived as inferior. There is always the danger in any country that low-cost institutions will be primarily attended by working-class students or ethnic minorities, but

differentiation, if achieved before attitudes harden, can mitigate the problem in two ways: first, by recognizing the diversity of market demand – students *desire* different kinds of education; and second, by allowing for upward intercampus movement and transfer. In an imperfect world there are no perfect solutions to the social, economic, religious and ethnic divisions that exist in all societies. Yet some solutions are assuredly better than others. To insist on the absolute is to invite inaction. The standing observation about a free and democratic society is not that justice is always done, but that justice is always *seen* to be done. That is the realm of policy.

Besides these general observations, we have some specific recommendations on how to circulate ideas about the necessity to develop a widely-shared understanding of a national higher education system. You have probably heard some of these already in our private conversations, and BaShaar is already at work bringing representatives of the colleges and universities together. We think that it was apparent at our lunch meeting with BaShaar that such a body has our full support. Years ago the Van Leer group strongly urged the formation of an on-going seminar composed of representatives of the different educational segments. It was already apparent to us that some locus was needed to discuss all of the critical areas of higher education, a place for the open exchange of opinions. Some of us heard that a seminar was formed along lines that were suggested, but it seems to have disappeared without exhibiting much growth. That should no longer be permitted. The different segments must simply get together on a regular basis and begin the task of outlining how a national system of education, integrated and connected and serving the needs of diverse populations, can be built. (Integration on behalf of students may also require the creation of some kind of credit accumulation system, which in turn will depend upon the establishment of various forms of academic accreditation that create rough course equivalences between institutions. There are numerous international versions of credits and accreditation. We understand that some preliminary attempts at building a normative crediting system in Israel were contemplated but subsequently faltered.)

We note the absence of an effective council or body composed of the heads of institutions. Such a body actually once existed. We understand that the failure of its members to cooperate led to its

unfortunate demise. The obvious therefore needs to be said. No organization of institutional heads is worth much if its members cannot learn how to regard themselves as partners in a common task and develop a consensus. If that failure is what makes Israel "special," our suggestions are wasted.

A body of heads is called a conference of rectors in Europe. It used to be called the Committee of Vice Chancellors and Principals in Britain and is today termed Universities U.K. That body has grown too large, with over 100 universities in the group. Sub-groups have formed with their own venues, the so-called "Russell Group," for example, composed of research-led institutions. Sometime polytechnics are another sub-group, while other kinds of colleges have their very own organizations. How to group and organize some 57 higher education institutions in Israel (a rather large number for a nation of 6 millions) is a subject for Israelis to discuss, but It may be that one organization for all these disparate institutions is neither workable nor desirable. If there are three or four or five such organizations of institutions of common character and interest, then it is important that there be some kind of coordination among their leaders. There must be acute forms of intercommunication. It should not be impossible to develop some principle of representation or a *rota* for the purpose of holding regular meetings. There also needs to be staffing. Several of our Israeli colleagues are already thinking along such lines.

The purpose of a body of heads is not to supplant other policy-making bodies but to develop policy positions or well thought-out views that can be shared with funding bodies and politicians, views that are based upon an understanding of national needs and goals. Funding issues, tuition fees, mergers (that may prove necessary with so many colleges), the concentration of research efforts or interactive research centers – these and all the other topics mentioned in this letter are items that a well-informed and dedicated staff would address in working with presidents. Secretariats would interact with corresponding government officials on a frequent and cooperative basis. In this way, the higher education sector would be alerted in advance to forthcoming public pronouncements of the thinking of the government and can act early to try to advance alternative

viewpoints. Government officials, on the other hand, can use senior officers in such associations as sounding boards and sources of detailed information.

We note from your own remarks that the Report of the Maltz Committee with its recommendations regarding academic governance was never adequately responded to by the academic community. That task would certainly be the responsibility of a body of heads empowered to speak for the generality of academics.

A body of heads would also have responsibility for conducting discussions with the Planning and Budgeting Committee (PBC) which was established in 1974 as a buffer between government and universities much on the model of the now departed University Grants Committee of Britain. We understand that the PBC finds itself in the unaccustomed position of also mediating between the colleges and the universities, or possibly even between individual universities, without having much experience of what is a relatively new phenomenon. Consequently it has not been able to develop a *modus operandi* for dealing with unaccustomed difficulties. The PGC appears to have also lost standing with the research-led university sector and has itself become subject to pressures from government. It is being lobbied by various interests pursuing private aims. That occurred in Britain under Mrs. Thatcher when scientists made private arrangements to the detriment of the higher education sector generally, and it was the standing situation in California before adoption of the Master Plan. Individual campuses put their own welfare above higher education generally, and local politicians were pressured to provide privileges and perquisites. This is not a healthy situation.

Whether the members of the PBC would entertain the advice of a body of institutional heads is an open question; but there is certainly a case to be made that broad-minded politicians and dedicated civil servants would welcome considered advice on funding, tuition charges, mission determination, access and all the other contemporary higher education issues when offered in the spirit and within the framework of what is best for the nation.

The question arose at our Haifa meetings whether a Master Plan such as California's was desirable. As matters now stand, the consensual values required for such a plan, straddling the political,

administrative and educational communities, do not exist in Israel. One may even speculate that in the fiscal and ideological climate of today's California, a Master Plan would not be forthcoming. Timing is always an historical factor. Yet having said this, and with the same urging as earlier in this letter, we can stress that no harm is done in attempting to devise some sort of unofficial document, a sketch of some kind of possible framework, some broad understanding of what a properly differentiated mission-based and funded system of higher education might be like in Israel. The challenge to devise such a set of working drawings, to adopt architectural language, would be a test of the ability of Israeli academic leaders to achieve community of mind. The very process of thinking in master plan terms might in itself be a step towards the building of viable partnerships between colleges, universities and within the universities themselves where substantial differences exist. Strong personal relationships crossing institutional and segmental boundaries are one probable result auguring well for the future. In other words, the process is as important as the outcome.

Within Israel there are organizations and individuals with a history of positive interaction. BaShaar has already been named. There is also the Israel Academy of Sciences and Humanities which has become an important fund-raising arm but also a place for the discussion of relevant, overarching issues. There are instances of solid working relations between individual Members of the Knesset and academics, and in several cases MK's have had careers as academics. That is not always a guarantee of good working relations, as we know from the history of other nations where academics enter politics and become the hammers of their former colleagues. But it is a basis upon which fellowship can occasionally be established. The cultivation of such relationships, again not for personal or institutional gain but for the good of the nation, ought to be pursued. Formal as well as informal, official as well as unofficial regional and national academic organizations all play a part in creating larger spaces for airing and communicating views that are not merely to be seen as self-regarding or representing the position of a single campus.

What appears to be missing from the landscape of intersecting organizations are academic institutes belonging to individual campuses and fitting between the disciplinary units, laboratories and other conventional academic divisions. You mentioned to us the

possibility of establishing a center for higher education policy studies at the Technion. Centers for Educational Policy Studies, or more broadly, Centers for Studies in Higher Education, exist in any number of universities outside Israel, in Australia, for example, the Netherlands, Britain and the U.S. These are places for privileged discussion – "privileged" meaning the free and open exchange of views (called "Chatham House rules" in Britain) without the fear that these will bring outside repercussions. Certainly such exchanges are in keeping with older definitions of academic freedom. They allow for continual conversations between virtually all parties with an interest in higher education: academics, civil servants, politicians, administrators, journalists, representatives of all types of higher education institutions and even representatives of secondary schools which feed higher education. Visitors from abroad contribute heavily to the success of such centers, bringing a needed international and comparative perspective to bear on common problems. Such centers have the additional virtue of being able to discuss all issues without having to risk making decisions, and participants retain their independence. That is truly critical.

Discussion of the possibility of creating centers has occurred before, **at** least several of us recall cursory discussions, and the Neaman Institute performs some of the functions that would be adopted by centers. Our position, in keeping with what is being said here, is that Israel needs to create different kinds of loci in which partnerships, communities and fellowship can thrive, where trust can be rebuilt and where different constituencies can expect a dignified and sympathetic reception. Higher education is not the province of specialists. The moral of the contemporary story is that all of society is and needs to be a participant in the discussions.

International centers often cooperate with one another, engaging in joint research programs and co-sponsoring meetings. They sometimes attract outside or even overseas funding. Our remarks all along indicate that Israel lacks widespread focused attention on higher education public policy issues. One consequence, to repeat the point made earlier, is a belief that the issues facing higher education in Israel are unique to the country. In our presentations at the Technion, and in this open letter, we are saying that such is simply not the case. The issues are global. They are being confronted or have been

confronted by other nations. There are accounts of successes and failures. Cross-national analogies are never perfect; but they are an important aid to understanding. The Israeli tendency to ignore the higher education experience of other countries must simply be challenged, and we hope overcome.

Some of us came away from Haifa dismayed by our encounter with a somewhat defeatist set of attitudes regarding the possibilities for widespread dialogue and interaction, both within and without the colleges and universities. This is not an attitude that is apparent in other sections of Israel's intellectual and scientific communities where academic exchange is essential and keeping abreast of global scholarship and inquiry is a high priority. But defeatism seems to be prevalent in the areas of higher education policy. Surely there has been enough of this in the past to signal a departure for the future?

Before closing this open letter, there is one other critical area of educational policy and importance that needs to be mentioned. Virtually nothing was said in Haifa about the structure and organization of secondary education in Israel, although the subject was briefly raised in some of our pre-conference exchanges of memoranda. The "success" of quality higher education is historically dependent upon access to secondary education and its rigor. Any discussions about the structure, financing and mission of higher education in Israel ought to include problems arising from the system of lower education. It would be very useful indeed if representatives of lower education were warmly received in the deliberations of the higher education communities. Moreover, you need all the allies you can get.

We think that it almost goes without saying, but we will say it nonetheless, that members of the international group are always more than willing to assist our Israeli counterparts in any way possible: as colleagues and friends offering encouraging advice; as scholars in the field who believe in the importance of an international perspective; as a community of academics eager to join with Israelis to help leap the hurdles common to every nation undergoing the formidable challenges of mass higher education. We hope that you and your colleagues will continue to call upon our services by regarding us as a visible or invisible college, a standing international advisory committee at your beck and call.

On behalf of Grant Harman, Guy Neave, Pier Paolo Giglioli, Thorsten Nybom, Leslie Wagner and Martin Trow, and with our heartiest combined wishes for decisions that will positively affect the future of Israel's colleges and universities,

I am as always,

Sheldon

CONTRIBUTORS

Nava Ben-Zvi, the President of Hadassah College Jerusalem has a Ph.D. in Chemistry with more than 25 Years of experience in science, technology and education; The Chair of the Board of Jerusalem's Bloomfield Museum, one of the founders of the Open University of Israel, as well as a founder of Snunit, Israel's first and largest Internet learning site; An expert on the rapidly changing world of information, education and training.

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Professor Trow has been awarded honorary degrees by the Universities of Sussex, Northumbria, Warwick and Lancaster in the UK, by the University of Stockholm, and by Carleton College, Minnesota. In 1991 Martin Trow was elected a Foreign Member of the Royal Swedish Academy of Sciences. He is also a Fellow of the American Academy of Arts and Sciences, a Fellow and past Vice-president of the National Academy of Education, a Fellow of the American Association for the Advancement of Science, and a Fellow (and Vice-president) of the Society for Research in Higher Education in Great Britain. He was a Trustee of Carleton College in Minnesota for over two decades, 1980-2001.

Martin Trow has held many offices and served on many of the committees of the Academic Senate of the University of California, including a term as Chairman of the Berkeley Division. Between 1990 and 1992 he served as Vice-chair and then as Chairman of the University-wide Academic Council of the Academic Senate of the University of California, and was one of its two representatives to the Board of Regents of the University. In 1997 he was awarded the Berkeley Citation for Distinguished Achievement and Notable Service to the University, the University's highest award.

Since 2001 Professor Trow has been chairman of the International Advisory Board to the Swedish National Agency for Higher Education. He also serves on the S. Neaman Working Group on The Future Research University of Israel. In addition, he is a Research Associate at the Research Institute for Independent Higher Education at the Association of Japanese Private Universities. Professor Trow is also Chairman of the Board of the California Association of Scholars.

Leslie Wagner is currently Chancellor of The University of Derby and Chair of The Higher Education Academy, a U.K. wide organisation, established with public funding support, to promote, develop and sustain improvements in the quality of the student experience, through more effective teaching and learning. He has also just completed a report for the Department for Education and Skills

on 2 year foundation degrees. Professor Wagner retired as vice chancellor of Leeds Metropolitan University in 2003 after 10 years in the post and before that was vice chancellor of The University of North London. His academic background is in economics. Professor Wagner has been a strong advocate of widening participation in the U.K. through his writing, public policy development and advice, and leadership of 2 universities.

About The S. Neaman Institute

The Samuel Neaman Institute for Advanced Studies in Science and Technology is an independent, interdisciplinary public-policy research institute, established in 1978 and located at Technion - Israel Institute of Technology. The mission of the Institute is to research, identify and evaluate solutions for national problems in the areas of science and technology, education, economics, industry, and social development. Through its sponsored research, workshops and publications, the Institute serves as a bridge between academia and decision makers in government, public institutions and industry.