Opportunities and Challenges for the 21st Century – Need for a New Paradigm WAAS and UNOG Conference, Geneva, 3 June 2013

World University: Global Strategy for Higher Education Jüri Engelbrecht WAAS and Estonian Academy of Sciences

Universities have a very special place in the society because they have faced challenges over centuries and are probably the oldest existing institutions in the modern society. The Bologna University was founded in 1088, followed by Oxford, Cambridge, Salamanca, Padua and others. Their assets were and are wise people and independent thinking and a clear idea to educate young people. It is well known that mankind has faced many problems during the last millennium of its existence and the role of universities has been enormous in all fields of human activities. The reason is simple: the research into new knowledge makes people involved to find rational arguments and to base solutions on scientific evidence. In a nutshell, – as it is said in old British universities – university is a place where people think. Certainly, thinking alone is not enough and the motto of WAAS enlarges it in the following way: promoting leadership in thought that leads to action. Wise actions are needed in the contemporary world; otherwise, society cannot find a sustainable way for the future.

We live in a networking society and its academic subparts – universities, academies, research centres, etc – have complicated links with the whole. Much has been spoken about the challenges faced by mankind, i.e. society. Indeed, the problems of welfare, environment, health, energy, poverty, natural hazards are to be solved. But sometimes the most important problem is overlooked which is how mankind can cope with everything. It means how individuals, groups and countries behave, communicate and manage in our complex world. Clearly, the new ICT technologies have changed the environment which leads to a new question how people will manage to live in such a world. It is noteworthy that in the EU the new framework called Horizon 2020 stresses the importance of humanities and social sciences.

The problems around us are acute and it is no wonder that the pragmatics would like to get the results immediately. This concerns also the attitude towards universities. There is a growing tendency to see universities as sources of marketable commodities, but universities are not enterprises with a defined product. A detailed analysis on the role of universities in the contemporary world is presented by the League of European Research Universities (LERU) – see G.Boulton and C.Lucas, *What are the universities for?* (LERU, 2008) and here their ideas are followed.

If we use an extremely simplified scheme then we could say that universities make knowledge from money, economy/industry make money from knowledge. Society, however, needs both – knowledge and money. The question is how to balance all that and move on in the most optimal way.

A more detailed look at universities gives two main keywords: education and research. In both fields of activities one should find new ways to act not forgetting the enormous experience universities have gathered in the past.

First – research. Following the ideas of LERU, research not only contributes to innovation and economic development; it is about man, society and the world, about culture and human perception, about inquiry into phenomena, a response to societal problems, to natural hazards and to climate change, a way to improving health and education and so on.

Second – education. Education in universities should not address current needs only; it is to develop the thinking and the mental and conceptual skills and habits that equip the graduates

to adapt and steer changes in the future. Even more, the graduates should be able to face the uncertainties of the world.

It is very difficult to determine a new paradigm for future strategies of universities. The existing celebrated rankings of universities do not reflect the real role of universities, that is why new value systems are now elaborated by many communities – in the EU, for example the U-Map, the U-Multirank, etc. Characteristically to those, the attention is not only to the research performance or the number of graduates but also to the role of every university in a local environment.

In general terms, however, society should also understand the immediate and future needs and to be sometimes more flexible in funding activities which will be useful in the future. In this context, education is important for decision-makers and politicians too. Let me give an example from one of the smaller EU countries – Finland. About 20 years ago, a venture capital Fund SITRA started courses for policy-makers. As my Finnish colleagues told me, the first reaction was not very positive but after some years the courses by SITRA became popular. We now know that Finland is doing pretty well both in research and education (cf PISA tests). One cannot forget the role of science education at an early age in preparing children for inquisitive work.

The universities from their side should not only perform facing the future (see above) but also explain to the society what they are doing, what the new knowledge is and what could be done using the new knowledge.

And what is important in the society is mutual understanding about all activities of its actors. Although the principle of understanding is not a new idea, it should probably be a basis for a global paradigm and joint efforts. The key words for actions could be flexibility, openness, networking and trust. The communication as known in semiotics of sign systems between the parts of the system is decisive for understanding each other.

I am tempted to finish by using some notions from my own field of research – nonlinear dynamics and complexity. In the theory of fractals usually simple rules govern building up a very complicated structure which is not only characteristic for a certain process but in addition has a special beauty. Only these simple rules must be applied many times consecutively. In a university two simple rules are important: support quality, support young people. But this support should be applied every day, every term, and every year in order to get results.

In the discussion of this and other talks at the Session, the question about unemployment of young educated people was brought to the attention of the audience. I agree that this is a general problem. However, the voice of young researchers gets stronger and stronger. At the Annual meeting of New Champions organised by the World Economic Forum in Tianjin (2008), the InterAcademy Panel (IAP) and the European Federation of Academies (ALLEA) organised sessions for young scientists, they said: "Making a better world needs better science – we young scientists are ready to contribute our share". Indeed, equipped with such a support, ALLEA has constantly stressed the importance of young people in formulating the EU future strategies. And the Young Academies have been launched in several European countries (the Netherlands, Germany, Austria, Sweden, Poland, etc), who bring the voice of young researchers to society including the policy-makers. The Eurodoc society unites European PhD students and junior researchers. This society works on many themes like social security and unemployment which are important for young people.