

## **Looking forward: why you are here and what liberal arts education has to offer**

Key Note Address by Professor Helga Nowotny  
(President of the European Research Council and member of the AUC International  
Advisory Board)

At the Opening Ceremony for AUC's New Building, Amsterdam, 21 September 2012

1.

Today we all have cause to celebrate. Why? Amid the financial and economic crisis, amid the many doubts and recurrent gloom that shrouds the future of Europe (Is there a future for Europe?) we have come together to celebrate a new beginning.

The festive atmosphere conveys both: a proud look back at what has been achieved within a very short period of time (I am speaking about time it takes to build new institutions) and a look forward to the immediate future –the academic year 2012/13 and what follows.

There is a new building whose opening we are celebrating. Buildings are important, as we interact with our environment and this interaction shapes how we think and how we feel.

There is a group of excellent teachers, very dedicated and highly motivated, waiting for you. Together with an equally excellent administration they are eager to take the liberal arts experience into the 21st century.

There is a remarkable institutional background of two major universities in A'dam having joined forces to make AUC possible. The Netherlands have taken the lead in Europe to bring back liberal arts colleges that originated here before being exported to the US. This sends a strong signal that innovation in higher education is possible and sets new standards how they can be achieved.

All these are important and good reasons to celebrate, but the most important is YOU, the younger generation on whom the future depends and for whom and with whom this truly exciting experiment is being launched.

So, what brought you here?

You have chosen to do your undergraduate studies at AUC. You have been successful in your application and today marks the day of a new beginning for you.

As you will soon discover, undergraduate studies occupy a crucial place also in your biography. The high school years are left behind you. With all the joys, the exuberance and the difficulties that accompany adolescence, these were years in which the emotional turmoil of growing up have sometimes entered an uneasy mix with the cognitive content which your teachers at high school tried to impart on you.

The next stage, studying for a M.A. and/or a Ph.D. is still some distance ahead of you. These years will already be geared towards your later professional life, where career, the kind of jobs you can get and salaries matter. Even if life, including professional life, is full of surprises and no guarantee for the future is stamped on the degree you will eventually obtain, these concerns are fortunately still absent from your undergraduate years.

This is why undergraduate education is so fundamental for everything you will do later in life. Tucked between adolescence and career-orientated adulthood, you are young adults who have acquired a robust sense of personhood. You are curious about the world, the human, the technological, ie. human-built, and the natural world, and eager to find your place in it. You enjoy your sense of identity and your relationships to others. You are eager to learn about this and much more.

This is where the importance of a curriculum for undergraduate education enters. It allows you to follow your own curiosity, wherever it may lead, while gently structuring the pathways that you explore.

It offers you freedom to choose topics and themes of interest to you, while setting up rules to reign in your attention and to attain levels of competence that will serve you well later.

Such a curriculum recognizes that academic teaching is still largely built around disciplinary territories, while it boldly offers strategies of trespassing these boundaries. In fact, the curriculum of AUC is taken pride in – and rightly so –having made interdisciplinarity one of its keystones.

2.

So, what is so special about the AUC curriculum? Do not other universities also have curricula, even if nobody ever talks about them? Precisely, in most universities, at least in continental Europe, curricula are just there, taken for granted. They had been established by committees, a long time ago. Often, they simply mapped the interests of the available teaching staff without even raising the question of what kind of knowledge incoming students should be taught, why and how.

In the case of AUC, credit goes to Marijk van der Wende and her able staff for designing one of the most innovative and far-sighted curricula for undergraduate education I have come across. Designing a curriculum is, first of all, a major epistemological challenge. What to select of the immense body of knowledge available today? How to select? And how to structure parts of this body of knowledge, without losing sight of the invisible connections that bind the parts together? How to navigate between what students ought to know - the core of any curriculum – and the many fascinating options that, far from only distracting, form part of a larger whole, however crude the whole may appear?

And once the core and the structure have emerged, how best to transmit this knowledge to students? Again, a fine line has to be tread between „training“, i.e. imparting skills and methods that allow students to transfer what they have learned in one domain to another, and „educating“ which includes preparing for uncertainty and for ‚embracing contradictions‘, as Yehuda Elkana puts it.

The test for any curriculum comes with its inbuilt strength to induce students to think on their own. Critical thought is more needed than ever in the messy complexity of the world of the 21st century. But it can only be exercised if students have been led before to discover that they can make contributions on their own and that these contributions matter.

The two innovative features of the AUC curriculum which impressed me most are its unique emphasis on ‚big questions‘ and how to approach them, namely through a research-oriented style of inquiry.

Every generation is driven by the wish to understand the world which is not of its own making, but waiting to be re-shaped by it. Every generation -and this is felt most acutely and urgently during the time of undergraduate studies - is driven by the urge to „change the world“, to righten what are the perceived wrongs, following one’s inner moral compass.

The focus on the ‚big questions‘, however, does more than that. It offers a view of the larger picture, framed in analytical terms together with whatever else is necessary to know in terms of history of political thought, empirical data and insights into how to translate a problem into research and/or action.

The entry point of ‚big questions‘ also provide a unique way to educate students towards becoming „concerned citizens“ (Elkana), so vital for the future of our democracies. Concerned citizens know that there are not only matters of fact, but also matters of concern that need to be addressed.

Teaching an undergraduate seminar for non-physicists on ‚Nuclear Power: Power Plants and Weapons of War‘, Nina Byers approvingly quotes Leo Szilard, who had worked on neutron induced fission of uranium: „...some people live in two worlds like I do. A world, and science is part of this one, in which we have to predict what is going to happen, and another world in which we try to forget these predictions in order to be able to fight for what we would want to happen“.

Just as it is important to acquaint students with the variously different position in this case physicists in America since 1944 took, it is important to make students realize that they too sometimes live in two worlds.

3.

This brings me to the third and last part. I mentioned already the emphasis throughout AUC’s curriculum which is placed on research-orientation as a way of thinking and tackling problems wherever they arise.

AUC takes this one big step further: it seeks to link the parts of our *globus intellectualis* that seem to have become separated, much like oceans dividing the continents. I am speaking about reconnecting the natural sciences – physics, chemistry, and the life sciences – with the humanities and social sciences. This begins by appealing to a student body that is sufficiently diverse and by recruiting students whose interests cover all these domains. AUC has succeeded in having 40% of its students as science majors. They

are offered what US liberal arts colleges can only envy: access to laboratory-based research projects and the lab facilities of a research university.

But this is only the beginning.

In an article by Thomas Cech, a former graduate of a liberal arts college, Nobel laureate and former President of the Howard Hughes Medical Institute, presents figures from US liberal arts colleges demonstrating that they produce about twice as many students obtaining a Ph.D. in science than do large, prestigious research universities. Many of them move on to distinguished research careers. He attributes this success to the smaller size of the liberal arts colleges, which permit a more intense interaction with teachers. A highly motivated teaching staff is focused entirely on excellence in teaching. The personal attention by a professor can make all the difference when offering a highly focused and intense research experience.

These figures cannot be compared nor transferred to the situation in Europe. Nevertheless, they present a strong case for why a liberal arts education is good also for science and for future scientists. Time has come to revive the all-inclusive concept of *Wissenschaft or wetenschapening* and liberal arts education may become one of the driving forces for doing so.

Cech mentions another reason in favour of liberal arts colleges which I find convincing: cross-training. The term denotes athletes who improve their competitive edge by incorporating a variety of exercises not directly related to their major sport. For instance, certain key muscle groups may be exercised more efficiently than spending the same time training in one's own sport. It is obvious that intellectual cross-training offers a number of advantages, both for those who are science majors and for the humanities and social science majors as well.

But there is more to a rapprochement between the natural sciences and the humanities. In order to tackle some of big questions and challenges, no approach based on a single discipline will make any headway. Technological fixes, appealing as they may be at times, have their limits.

The challenge before us, as I see it, is to understand that we live largely in a world of our making. Science and technology continue to transform the way we live, but it depends on society what is absorbed, incorporated and appropriated and how. More scientific and technological innovation calls for more social innovation. Science is part of culture and science and society co-evolve together. This necessitates a novel, much more encompassing and integrative approach –whether one thinks of climate change, poverty and health, the digital and perhaps soon the genetic divide or other challenges.

The Royal Society in London, one of the most prestigious but by no far the oldest of the many academies that originated at the beginning of modern, institutionalized science in Europe, took as its motto the beginning of a verse by Horace: *Nullius in verba*. This is sometimes interpreted – wrongly – in the sense of C.P. Snow's outdated two cultures thesis, namely that it expresses the Royal Society's distrust into words, thereby distancing itself from the humanities that are dealing with a „world made of words“ (Grafton). But Horace's verse continues: *nullius addictus iurare in verba magistri, quo me cumque rapit tempestas, deferor hospes*.

This can be roughly translated into: do not trust the words of any authority, rely on your own judgement...It is a rallying call for independent, critical thinking of the kind that AUC is committed to instill in its students.

If I were to formulate a wish for all of you who are beginning this year's undergraduate studies or working towards finishing them, I would phrase it differently. I would like you to become what I call „competent rebels“. Rebels, in the intellectual sense of the word, as there are many accepted dogmas out there that have to be questioned and, if necessary, be replaced if we agree that the current state of the world is a mess and that at least some of our faulty thinking got us there.

But in order to be a successful rebel, one has to have the necessary competence to overthrow the accepted dogmas. The words of the masters are not only to be distrusted and to be disavowed, but the competence must exist to build something in their place if we want to make this world a better place.