



Liberal Arts and *the Sciences*

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Dear Mr. Mayor,
dear Ms. Consul General,
dear ladies and gentlemen,
colleagues and students,

There are many ingredients that will give Amsterdam University College a special identity: the reflection of the city of Amsterdam with its own unique character, the complementarity and synergy of its two founding universities, its cultural diversity, its international outlook. But another crucial component will be the integration of the methods and thinking of the natural sciences in a traditional liberal arts teaching tradition. Fifty years ago C.P. Snow delivered his famous Sir Robert Rede Lecture on "The Two Cultures and the Scientific Revolution", warning us that the ever-increasing gap between the humanities and the sciences was an obstacle to solving the world's great problems. Snow was a typical British mixture of a physicist, public intellectual, a science advocate, civil servant and successful novelist.

His 11-part series, "Strangers and Brothers", paints in great detail the world of politics and bureaucracy, and can be considered an English version of "Het bureau".

Snow famously argued that the second law of thermodynamics is just as important in our culture as the sonnets of Shakespeare.

The reactions to Snow's suggestion were very violent and ad hominem. The literary critic F.R. Leavis in his Richmond Lecture in Downing College in 1962 said: "Snow thinks of himself as a novelist, [...] his incapacity as a novelist is ... total [...] as a novelist he doesn't exist; he doesn't begin to exist. He can't be said to know what a novel is. [...] (Snow is) utterly without a glimmer of what creative literature is, or why it matters. [...] Not only is he not a genius, [...] he is intellectually as undistinguished as it is possible to be."

Yet, Snow was right. A complete education should be a multidimensional experience, since students, teachers, schools, and research are all multidimensional. It is a challenge for universities to offer such an environment and be a proper reflection of the talents of its inhabitants.

Science should be an integral part of a balanced diet. It is good for science, and it is good for the rest of the world. Obviously, learning science is necessary in order to

become a scientist and there is a growing need for scientists. But even more important: understanding science is necessary to appreciate science. Many of our students will later be in a position to make important decisions, whether in business, government, policy, or academia. The scientific way of thinking and approaching life could be valuable if not crucial for their success.

By presenting science in a too narrow way we do it a great disservice. Traditionally, we work with the hourglass model. A population of students with a wide range of interests is forced to go through the very narrow opening of a university study that seems to be defined up to the third decimal. The few that entered will be told how wonderful their choice of study is, since they can go in so many directions. We should not be surprised that only a few trickle down. Pushing harder will not work. Both students and science itself deserves a wider opening of the hourglass, a broader definition of their interests. There is a growing ring of disciplines that are embracing more of the methods and approach of science, such as psychology and other cognitive sciences, language studies, archaeology, etc. Connecting science with its neighbouring disciplines, showing its softer side, enriches it.

Modern life confronts with a paradox: our world is getting more and more complicated, yet we seem to want to know less and less about it. Science and technology are like the microchips in our computers and mobile phones: incredibly complex and useful, but invisible behind a shiny exterior, a world for technicians not to be entered. But we are increasingly dependent on and driven by science and technology, the silent forces of history. Ignorance of the workings and ideas of science is dangerous. Many people think, in the words of the writer Rudy Kousbroek, that it is the whistle of the train conductor that is the force that moves the train. But willpower is not enough. There are many great crises or challenges facing the world: food, energy, climate, pandemics, all driven by globalisation. Science and technology might have been part of the cause of these problems, they are also absolutely key to the solutions. We need fundamental new ideas; present technology is simply insufficient. But the true solutions can only be found together. Multidisciplinary and interdisciplinary research will increasingly hold the key to solutions. Not because it is fashionable, but because the problems themselves stretch over many disciplines. Only by working together do we have a chance to find solutions. As when you are completing a jigsaw puzzle,

it is easy to start at the edge where life is simple. Now we are getting to the difficult middle part. The sciences can also benefit from a perspective from the humanities. As we have witnessed again in the current economic crisis, technology left to itself, also financial technology, without the checks and balances of other disciplines, is a very dangerous thing. How much would economists have benefited from the perspective of a historian who would naturally look back more than twenty years. In shaping the curriculum AUC will have to balance depth and breadth. The rewarding experience of going deep underground in research versus the beautiful views of a bird's eye perspective. This is what the famous philosopher and mathematician Alfred North Whitehead (1925) has said in his book "Science and the Modern World": "Each profession makes progress, but it is progress in its own groove. But there is no groove adequate for the comprehension of human life. Of course no one is merely a mathematician or merely a lawyer. People have lives outside of their profession or their business. But the point is the restraint of serious thought within a groove. The remainder of life is treated superficially, with the imperfect categories of thought derived from one profession. Here the challenge of general education is to find a

way to deepen that knowledge, that knowledge that is inevitably and unavoidably outside of the domain of the disciplinary groove."

To quote another philosopher from the same period and an educational reformer, John Dewey (1929): "The test of success is whether the scholar's special knowledge, when referred back to ordinary life experiences and their predicaments, render them more significant, more luminous to us, and make our dealings with them more fruitful, or does it terminate in the making of things of ordinary experience more opaque [...] That kind of movement, however one were to institutionalise it in an educational system, is the task of general education in a world of disciplines."

I hope that AUC will be seen as a modest step to building a bridge between the two cultures and making life a bit more transparent for its students.

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