

NOBEL LAUREATES' VIEWS ON HIGHER EDUCATION



Prof. Werner Arber, Nobel Laureate in Medicine

Until a few centuries ago, traditional universities educated their students to become generalists possessing wide fields of knowledge on cultural values and on their relevance for society, but with the gradual increase in the knowledge base and the increasing sophistication of research, specialization has led to a splitting into increasingly separate disciplines. However, the problems to be tackled in research are often of quite a complex nature. This requires the contribution of knowledge from a number of different disciplines. A return to the education of generalists is no solution. The solution is interdisciplinary cooperation between different specific disciplines. Therefore, higher education should focus on three goals to be reached by the students: (1) excellence in one or a very few scientific disciplines; (2) transdisciplinary competence through having a general knowledge on other scientific disciplines that enables them to carry out interdisciplinary cooperation; and (3) interdisciplinary experience through involvement in cooperative studies.

The principle source of innovation resides in the acquisition of new scientific knowledge. Bursts of new scientific knowledge are often generated by novel research strategies of cross-disciplinary relevance. Scientific knowledge represents cultural values that may be with regard to useful technological applications and/or with regard to our world view. Updating the world view of the civil society is an important interdisciplinary task, since the accepted world view provides the knowledge that acts as a guideline for taking social responsibility both for technological applications and for political guidelines to be introduced. We must be aware that technological applications of available knowledge and political decisions often lead to a specific shaping of the future. In democratic societies this should not solely remain in the hands of a few promoters of a sometimes irreversible development. Rather, the civil society

should take co-responsibility in the shaping of its own future and that of the environment, taking into account the justified request for sustainability. This tremendous task of society requires an ever more intensive interdisciplinary scientific cooperation. The author illustrates the validity of this general scheme by referring to novel knowledge in life sciences and its biotechnological applications.



Prof. José Saramago, Nobel Laureate in Literature

I believe that this is a good opportunity to clarify the meaning of two concepts that are often mixed up: education and instruction. As I understand it, schools are in no position to educate; at most, and in the best of cases, they can instruct. I believe that one of the biggest misapprehensions of our times – which is largely a consequence of the severe crisis the family is currently undergoing – is to think that schools, from nursery and primary to more advanced levels in education, are under the obligation to give students grounding in civic matters. It seems obvious to me that in order to do so, besides the lack of time there is also a lack of training. A final analysis would suggest that it is society as a whole that should be reformed, although that raises the inevitable question: how?

I suppose that the first and inevitable step would be to objectively analyse the basis of modern-day democracies and the way they are run. This would show – and I firmly believe this – that a perverse system is to be found at the root of all evil, which with each passing day refuses to accept itself as it is and that has become the perfect breeding ground for indifference and apathy, for selfishness in all of its manifestations, whether individual or collective. The next step, which transforms aggressive behaviour into the social norm, has already been taken.

Unfortunately, this is what we are now experiencing. We can always repair the roof over our heads to stop the rain from getting in, but if we

do not look after the foundations, sooner or later the house will cave in – with us in it.



Prof. Vernon L. Smith, Nobel Laureate in Economics

The reduction and ultimate elimination of world poverty is the pre-eminent socioeconomic priority. This truth must be part of the university's commitment to the development and dissemination of human knowledge. Educational institutions must emphasize the distinction between 'knowing that' and 'knowing how', recognizing that the world's work is done by people who 'know how'. The great secret of wealth creation, the origin of all human betterment and poverty reduction, is through economic specialisation and the personal and impersonal exchange systems that enable specialisation to occur.

Education must support policies that promote free trade and migration of all peoples toward the end of maximizing individual opportunities for self development and learning. Regulations that interfere with the free movement of goods and people can only make all peoples poorer. Just as capitalist welfare systems have failed to deliver programmes that help the poor to help themselves escape the cycle of subsidization and dependence to become self-sustaining; so has socialist rhetoric, while championing the poor, failed to create the substance of economic growth and human betterment.

With these ends in mind how should we finance the public university? The first and most important source is tuition, which should be set at levels that reflect the full cost of education, with scholarships that assure that no qualified student is denied entrance because he/she is too poor to pay. Any approach based on low tuition across the board simply subsidizes the rich. Neither should the public university rely only on the public funding of research and creativity in literature and the arts. The formation of niche foundations should be encouraged to support specialized research and education programmes that accommodate donor intent and faculty whose creativity attracts niche supporters.

Also, in my area of research there are many commercial and industrial sources of funds interested in the kind of new market management systems that we create. Our requirement is that if a company seeks to assist in the funding of a project, the information we generate cannot be proprietary only for that company. We will expect to publish our research results, and make the data available to students, others in the university, and the public.



Prof. Wole Soyinka, Nobel Laureate in Literature

I suspect that we all share, in various degrees of course, the age-old dream of the alchemist. So for that alchemical concentrate – also known sometimes as the philosopher's stone – let us simply substitute this invisible, magical, lonely herb, hiding somewhere in Barcelona or in Abeokuta, my own hometown, simply awaiting discovery. The functions are the same. And how may it be discovered? Only by the inculcation of the constantly receptive mind and opportunities of contact with new environments. That inculcation, that exposure is a function of both scientists and the humanities.

This is the zone where education impinges on daily experience and the opportunity for such experiences. In essence, it is an expansion of that striking phrase from the rector's communication – which was sent to some of us – in which he argues for a principle that demonstrates, and I quote, 'the efficacy of a more conceptual and formative, less memory-based secondary education'.

I translate that ambition as one that includes, indeed necessitates, exposure, inclusivity, physical wherever possible, but at the very least textual and conjectural – this, after all, is the function of libraries, including today's virtual libraries, another actualization of what was once pure science fiction. What happens, however, if the opportunity is foreclosed, if exposure to knowledge between, shall we, say my brother's backyard and that of the rector of this university shuts off, and one remains inaccessible to the other.