Speech by Professor Richard Levin, President of Yale University, at the 2010 Queen's Anniversary Prizes Banquet at Guildhall, City of London

Your Royal Highness, Excellencies, my lords, ladies and gentlemen. I'm greatly honoured to be here with you tonight as we celebrate 21 institutions for their excellence in higher and further education. This splendid setting appropriately dignifies the extraordinary work that they have done and, as a representative of one Britain's oldest colonial universities, I'm grateful to be able to salute you.

Seeking inspiration on this magnificent occasion, I turned to a captivating book, published last year entitled "The Boy Who Harnessed The Wind". It tells the story of William Kamkwamba, a young boy from a tiny village in Malawi. From an early age William took apart radios and tried to figure out what made them work. Later at age 14, after a devastating famine left his family too poor to pay his school fees, he studied alone in a small public library that was stocked by books donated by the government of the United States. There he devoured an elementary physics text book called "Explaining Physics" and this book helped him to understand conceptually what he had discovered inductively by tinkering with radios. Then providentially, he stumbled upon a book called "Using Energy" which illustrated how a windmill might be used to generate electricity.

Scavenging parts from a junk yard and persuading friends and relatives to part with bicycle frames and copper wire and other such objects, William built a windmill so that he could read after dark. Later, he built another windmill to power a water pump that allowed his family to harvest twice yearly and insure them against famine. William Kamkwamba's moving and inspirational story is a perfect tale for our age and a perfect tale for this occasion. It shows us how education, science and technology can improve the material conditions of life and uplift the human spirit. Through study, imagination, resourcefulness and stubborn persistence William harnessed the wind, and in doing so created a better life for himself, his family and his village. The institutions that we honour tonight have in similar fashion harnessed the wind. They have drawn upon and advanced human knowledge of nature and culture and they have reached out to the world around them using that knowledge to improve material and spiritual conditions of citizens both near and far. Two of the many lessons taught by William Kamkwamba's story seem worthy of note this evening.

First is the importance of access to education. During and after the Malawi famine of the year 2002 William's family could not afford to pay the tuition to send him to secondary school. It took unusual determination and dedication on William's part to overcome this

handicap by studying independently in the village library. By contrast, in the United Kingdom, thanks to massive government intervention, that we hope is sustained, access to free secondary education is today ubiquitous and access to tertiary education has increased dramatically. Of the relevant age cohort nearly 60% now pursue higher and further education in the United Kingdom compared to only 15% four decades ago. Like the United States, the United Kingdom is fortunate to have a rich diversity of institutions that serve the wide range of society's needs for higher and further education. From education in the liberal arts that inspires future scholars, government officials and business leaders, to the training that imparts essential skills to nurses, technicians and office workers, the full spectrum of institutions that participate in strengthening the nation are represented and recognised here tonight. We celebrate the contribution of them all.

The second lesson of William's story is that knowledge can have powerful practical consequences. We see this illustrated abundantly in the work of the institutions we honour this evening. From the management of chronic pain to increasing crop yields to combating climate change, the research and educational programmes of the 21 institutions represented here are having an important influence on the world outside the academy. Indeed, each of the citations, published in the booklet we received this evening, refers to the public impact of the work being recognised. Even the outstanding archaeology done at the University of Reading is cited for the help it provides to law enforcement agencies and the impressive array of Asian, African and middle eastern languages offered at the School of Oriental and African Studies is cited for its contribution to social cohesion in this country.

Now it is laudable that the work of colleges and universities advances the nation's social and economic agenda but if I may be so bold is there not a danger that too much weight might be accorded to immediate social benefit? The purposes of institutions of higher and further education go beyond immediate practical impact. Whether students study cooking at Thames Valley University or read Greats at Oxford it is immensely valuable to awaken in those students the passions that will enliven and motivate them and to develop in them a capacity to continue to learn throughout their lifetimes. Such outcomes of course will have societal consequences of a certain kind in an ultimate sense because the success of our democracies depends upon having citizens with a capacity to learn and to adapt.

But learning cannot and should not be justified entirely on grounds of social impact. Learning enriches the human experience, and as educators we should not lose sight of this. This danger is manifest also in the current discussion of the proposed new criteria for assessing government sponsored research in this country. The new research excellence framework

puts 25% weight on the impact of research on the economies, society, culture, public policy or quality of life. The higher education funding councils recognise the difficulty of identifying such effects and they are running a pilot exercise this coming summer to test this new approach. They propose, for example, that every unit seeking funding should conduct case studies of the consequences of their past research. Recognising that the effects of research are rarely immediate, the funding councils suggest that units look back 10 to 15 years to identify the sources of impacts that can be observed today. I fear that such an approach to assessment may well miss more than it harvests. Most fundamental advances in science don't yield practical results in 10 to 15 years. The time lag is usually much longer and the consequences are rarely – frankly, hardly ever – foreseen at the time of discovery.

For example when the first laser was built in 1960 no one imagined that it would be adapted for use in eye surgery 27 years later. The first quantum computer was built at Yale last year. It holds the promise of orders of magnitude increases in computing speed and power. We can only begin to imagine the applications that a full scale commercially viable quantum computer will make possible. But we can safely predict one thing: it will be at least 20 years, if not more, before one is built and sold.

My point is simple. Putting too much weight on the immediate, even the intermediate, term practical impact of research will distort the progress of science, technology and humanistic learning in this country. The UK now has 1% of the world's population. It has 12% of the world's scholarly citations and if the Times Higher Education Supplement is to be believed, it has 40% of the top 5 universities. Not bad for a little island! Underweighting the importance of fundamental science and of curiosity-driven research across the whole spectrum of human knowledge may jeopardise this enviable position.

William Kamkwamba's achievement had a powerful impact on his tiny African village. And there's no doubt that at a certain point he became aware of the potential practical consequences of the knowledge that he had acquired. But his initial interest in electricity was not spurred by a practical objective. Sitting in that library, he simply wanted to understand how his radio worked. And his interest in physics books was not motivated by a desire to provide electric power for his family and his village. He was motivated by intellectual curiosity, pure and simple. And so in seeking practical outcomes from our institutions of higher and further education whose work has so much value, let us not neglect the spark, the desire to understand that makes all else possible. Congratulations to all of you.