

**Speech by Dr. Ismail Serageldin, founding director of the New
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President Cicerone, Colleagues and friends

It is with profound thanks and great humility that I stand before you today to accept this enormous honor you bestow upon me. I accept it as an invitation to redouble my efforts and to mobilize even more of my colleagues and compatriots in the cause of science. In that latter sense, it is a timely Award indeed.

As you all know, this has been the “Arab Spring”. Ordinary citizens have toppled autocrats and still battle dictators armed with little more than their convictions. Ultimately, they cannot be denied. For as Victor Hugo has said: “No army can defeat an idea whose time has come”. And freedom, human rights and democracy are ideas whose time has come for even the most remote corners of the globe.

Sparked by the successes of Tunisia and Egypt, the people speak. From the Syrian demonstrators of Damascus and Deraa to the embattled Libyan defenders of the encircled Misrata to the chanting Yemeni crowds in Sanaa,... they are the embodiment of the unconquerable spirit described by Henley’s *Invictus*¹:

It matters not how straight the gate,
How charged with punishments the scroll,
I am the master of my fate,
I am the captain of my soul.

This surge for freedom, reminiscent of the best in American history, from the founding fathers to Lincoln to Martin Luther King, will face setbacks to be sure. But ultimately, it must triumph.

Today there are those who fear that the Arab Spring will give way to the Islamist winter. That the idealism of the revolutionary democrats will only pave the way for theological autocrats. Yes, Islamist sentiment is rising and zealotry is expanding in parts of the public realm. But the defense against extremism is not by censorship or autocracy; it is by embracing pluralism and defeating ideas with ideas.

And here **Science** has much to say.

Science has much to say to the Islamist zealots who preach an intolerant doctrine.

It has much to say to young democrats enamored of the new technologies.

It has much to say to those who yearn for a better economic future.

And more importantly, it has much to say about the kind of values that we must adopt if our societies are to be truly open and democratic, for these are the values of science.

To the Islamists, who yearn to return to their particular vision of the Muslim past, we say, there is a great Arab and Muslim tradition of science and tolerance that you must be aware of. Indeed, throughout the dark ages it was the Muslims who held up the torch of rationality and reason, while Europe was in the throes of bigotry and intolerance.

¹ -- *Invictus* (meaning unconquerable in Latin), published 1875 by William Ernest Henley (1849-1903)

Centuries before Bacon, Descartes and Galileo, Ibn Al-Haytham (10th C) laid down the rules of the empirical approach, describing how the scientific method should operate through observation, measurement, experiment and conclusion:

“We start by observing reality ... We then proceed by increasing our research and measurement, subjecting premises to criticism, and being cautious in drawing conclusions... In all we do, our purpose should be ... the search for truth, not support of opinions”².

Likewise, listen to the voice of Ibn Al-Nafis (13th C) on accepting the contrarian view, subject only to the test of evidence and rational analysis.

“When hearing something unusual, do not preemptively reject it, for that would be folly. Indeed, horrible things may be true, and familiar and praised things may prove to be lies.”³

This is the Muslim tradition that must be revived if the Arab World, Muslim and non-Muslim alike, will indeed join the ranks of the advanced societies of our time. Rejecting politicized religiosity, and reviving these traditions would promote the values of science in our societies.

To the youth, enamored with new technologies or simply seeking a better economic future, we say: remember science and the scientific method, for it is scientific insight and knowledge that gives birth to technology. We must be the producers of knowledge not just the consumers of technology. That will not happen unless we open our minds to science and the scientific approach and open our hearts to the values of science.

What are these **values of science** that I keep returning to as the basis for enhancing human capabilities and ensuring the public welfare?

As Bronowski observed more than half a century ago, the enterprise of science requires the adoption of certain values: Truth, honor, teamwork, constructive subversiveness, engagement with the other, freedom, imagination, and a method for the arbitration of disputes. The values of science are adhered to by its practitioners with a rigor that shames other professions.

Truth: Any scientist who manufactures his data is ostracized forever from the scientific community. She or he may err in interpreting the data, but no one can accept fabrication of data. In no other field of human activity is this commitment to truth so absolute.

Honor. Scientists reject plagiarism. To give each his or her due, is essential, a sentiment well captured in Newton’s statement that ... “if I have seen farther than most, it is because I have stood on the shoulders of giants”.

² -- Ibn Al-Haytham, *Kitab Al-Manadhir*, 10th C.

³ -- Ibn Al-Nafis, *Sharh’ Ma’na Al Qamun*, 13th C.

Teamwork has become essential in most fields of science. And the essence of teamwork is to ensure that all the members of the team receive the recognition that they deserve.

Science advances by overthrowing the existing paradigm, or at least significantly expanding or modifying it. Thus there is a certain **constructive subversiveness** built into the scientific enterprise, as a new generation of scientists makes its own contribution. And so it must be. Without that, there would be no scientific advancement. But our respect and admiration for Newton is not diminished by the contributions of Einstein. We can, and do, admire both. This constant renewal and advancement of our scientific understanding is a feature of the scientific enterprise. It requires tolerant **engagement with the contrarian view**, accepting to **arbitrate disputes by the rules of evidence and rationality**.

Science requires **freedom**: Freedom to enquire, to challenge, to think, to imagine the unimagined. It cannot function within the arbitrary limits of convention, nor can it flourish if it is forced to shy away from challenging the accepted.

The content of the scientific work is what is discussed, not the person who produced it, regardless of their nationality or the color of their skin or the god they choose to worship or the ethnic group they were born into or their gender. These are societal values worth defending, not just to promote the pursuit of science, but to have a better and more humane society. These are the central core of universal values that any truly modern society must possess.

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This medal is not just a great honor, it is an inspiration for me and for others to redouble our efforts to spread these humane values that I have called the values of science. Especially for our youth, who sparked our revolution, just as other young people transformed societies, reinvented business enterprise and redefined our scientific understanding of the world we live in.

To our youth I say: You have been called the children of the internet, or the Facebook generation, but you are more. You are the vanguard of the great global revolution of the 21st century. So, embrace the values of science, and go forth into the journey of your lives, to create a better world for yourselves and for others. Think of the unborn, remember the forgotten, give hope to the forlorn, include the excluded, reach out to the unreached, and by your actions from this day onwards lay the foundation for better tomorrows.

To the members of the academy I say: Thank you. Thank you from the bottom of my heart.