

Awards Ceremony Speech – Global Junior Challenge 2015

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Students, Teachers, Parents,
Ladies and Gentlemen,

Welcome to the Award Ceremony of the Global Junior Challenge 2015! We at the Fondazione Mondo Digitale are extremely happy and proud to see you all here, filling this historic hall with your positive energy, to celebrate once again the imagination, generosity, determination, and virtuous spirit of your work, of your beautiful projects at the service of a better humanity. God knows we need this virtuous spirit of service as we advance ever deeper into the 21st century with all its contradictions, challenges and opportunities. But the spirit of service alone is not enough, it must be enriched with the awareness and the knowledge of the complex forces and processes that are driving humanity in this century. Only the powerful combination of knowledge, creativity and spirit of service, of science, arts and profoundly humane sentiments and pursuits, will keep us on the right track towards our rightful place in the Garden of Eden.

At the heart of it all there is a need for a new education, --- an education that truly equip us to deal with the complexities and contradictions of the 21st century, empowering us to follow paths of freedom through the development of our full potentialities. Let us see briefly some facts and trends of the world we face and are invited to improve in the next decades:

The advances in science and technology are simply staggering. They have hugely increased humanity's power to influence the course of its own future and that of the planet and beyond.

Material and immaterial goods have raised living standards, touching upon everything: the way we work, move, communicate, think, play, live and so on. Wealth creation has accelerated and millions have come out from extreme poverty. Human life has got longer, almost doubling the life expectancy of few centuries ago and, to an ever-increasing degree, mankind is becoming its own creator as technology enters the realms of genetics, neuroscience, nanotechnology, humanoids etc.

And yet, we are told that this is little compared with things to come already in this century. Just take into account the following developments since the figures are astonishing:

By 2019, Cisco expects 24 billion networked devices/connections online, compared with 14 billion in 2014. 24 billion devices, without counting sensors, will over 3 times the total human population.

By the same year 2019, Cisco also expects global Internet traffic to reach 37 gigabytes (Gb) per capita, that is, 37 gigabytes per each one of the over 7 and a half billion people on Earth. And the tsunami of data beginning to hit humanity will not abate too soon, since MacKinsey Global Institute has projected a 40% growth in global data generated per year. And it is not just data that's growing, it is also scientific knowledge that, in terms of numbers of scientists and journals, has been doubling every 10 to 20 years for over a century.

Most strikingly, best-selling author Ray Kurzweil speaks of exponential trajectories in the development of information technologies, estimating that technological change in the 21st century will be almost 1000 times greater than in the previous century, representing a speed of technological evolutions one million times faster than that of biological evolution.

On these basis Kurzweil predicts that this century will witness the advent of *The Singularity*, a time representing a profound and disruptive transformation in human capability based on technological change so rapid and deep that can only be seen as a rupture in human history. By then artificial intelligence or non-biological thinking would have surpassed the thinking power of their human progenitors many, many times over. There is no real consensus, among AI researchers about how long it will take to reach human-level AI but, Physicist Stephen Hawkins warns that “When it eventually does occur, it’s likely to be either the best or worst thing ever to happen to humanity, so there’s huge value in getting it right.”

But not only is artificial intelligence that we must get right because advances in genetics and molecular biology are raising equally daunting prospects. Biologist and social philosopher Edward Wilson envisages the arrival during this century of a new stage in human evolution that he calls *volitional evolution*, because we will be consciously able to redesign our biology and human nature as we wish them to be. Such capacity will present humanity with profound intellectual and ethical issues and choices for the first time in its historical evolution. Wilson speaks of a Faustian choice where “we must look deep into ourselves and decide what we wish to become ... and tells us that ... “only wisdom based on self-understanding, not piety, will save us.”

As a human species, we certainly have much to be proud of our fantastic scientific and technological achievements that have taken us to the threshold of becoming the controller of our own biological destiny. If it were for this alone, a visitor from a distant planet could be forgiven for thinking that this is a species that has learnt to live in happiness, reaching the best of its potential development and rightly celebrating the miracle of conscious intelligent life. Little would take for him/her, however, to realize that humanity is far from even approaching the paths leading to the Garden of Eden.

Just a brief tour would be enough to witness the horrendous atrocities of war zones, the millions who live in squalor, illness and ignorance, the lonely lives of scores of old people, the depressive emptiness of so many others, the fear of environmental catastrophe, the religious and ethnic hatred, and the list could go on. For instance, enormous environmental pressures are building up due to the development styles of a world's population that's growing enormously, up from 7.3 billion today to reach an estimated 9.7 billion in 2050, and 11.2 billion in 2100. Moreover, this growth is not equally distributed throughout the planet, so while Africa is a high-fertility area, there are places such as Europe where fertility is now below the level required for the full replacement of the population in the long run (around 2.1 children per woman, on average).

The consequence is the phenomenon of ageing of the population with important consequences for the future welfare of these societies. People are also converging towards cities, so that by 2050, 66% of the world's population, about 6.4 billion people, will live in cities. And unfortunately they will not carry with them the highest forms of responsible citizenship, no, they will carry tremendous inequalities and living and consumption styles that are making an impossibility of the urgent aspiration of sustainable human development in the 21st century.

To start with, today, fantastic wealth coexists with abject poverty and the gap between the two is getting larger. According to a recent Oxfam report, the richest 1% of the population will own over 50% of the world's wealth in 2016, a big jump from the 44% only a few years ago in 2009. In 2014, the richest 1% owned 48% of the global wealth, while the richest 20% owned 94.5%, leaving just 5.5% for the remaining 80% of people in the world. The figures are astonishing, in 2014, the very richest 80 people in the planet had a net wealth of \$1.9 trillion, ... a wealth equal to that of the bottom 50% of humanity, that is, approximately 3.5 billion people.

In this context of huge inequality, extreme global poverty, fixed by the World Bank at the minimalist \$1.9/day at 2011 international prices, remains unacceptable high. Hundreds of millions of people still live with less than \$1.90/day, -- the World Bank estimate 700 million for 2015, but it also recognises that if the figure were to go over \$2 dollars then we are talking about more than 2 billion people in poverty, meaning deprivations such as lack of health, sanitation, education and so on. For instance, in 2015, 2.4 billion people worldwide still lack access to improved sanitation facilities.

Striking as it is, poverty shares the podium with other unacceptable maladies of our human development. Specifically, our 21st century planet still houses dramatic instances of slavery and child labour. The organization Free the Slaves estimates that there are between 21 to 36 million of enslaved people worldwide; while the ILO (International Labour Organization) estimates child labour at 168 million children, of which 85 million are engaged in hazardous work, (ILO, 2013).

And, very recently, the civilised consciousness of Europe and the world has been thoroughly tested by the Middle Eastern wars and the drowning of about 6,000 men, women and children in the Mediterranean Sea in the last two years. We, as humanity, have been unable to stop the massive displacement of people by war and famine. Today, the UN High Commission for Refugees (UNHCR) puts at about 60 million people those who have been forced to leave their homes to save their lives and go in search of a better and secure future.

Last but no means least, we have the environmental time-bomb that has been ticking away for decades, sending humanity alarming signals through ever rising yearly average temperatures, melting of glaciers, incidences of stormy weather, etc. A recent report from the American Meteorological Society confirmed that in 2014, yet again, “the most essential indicators of Earth’s

changing climate continued to reflect trends of a warming planet, with several markers such as rising land and ocean temperature, sea levels and greenhouse gases – setting new records.”

There used to be disputes about how much of these changes are human originated, but these have subsided in the face of the mounting evidence that it is us, with our development styles, consumption patterns, and growth-driven structures that are the fundamental force of the environmental disasters coming to threaten the human and animal habitat of the planet. Every year, in spite of the plethora of reports, debates, agreements, promises and good intentions, the worsening of key indicators tells us a story of humanity’s great difficulty and incapacity to alter the dynamics of its long-term collective behaviour.

The warnings coming from the authoritative Intergovernmental Panel on Climate Change (IPCC) are very clear. Without a reversal of the current “global warming” through effective measures of mitigation and adaptation, it can be said with high confidence that “warming by the end of the 21st century will lead to very high risk of severe, widespread and irreversible impacts globally.”

But what will it take for humans to reverse the environmental threat of their own making? IPCC sees the need for a systemic response that includes “effective institutions and governance, innovation and investments in environmentally sound technologies and infrastructure, sustainable livelihoods and behavioural and lifestyle choices.”

Thus, we arrive to one of the most challenging paradoxes of the present stage of human development. On the one hand, the planet habitat is under serious pressure out of the consumerist growth models and life styles of part of humanity. On the other hand, billions of currently excluded people are looking at the consumerist model “exported” by the process of globalization and, legitimately wondering how can they join the party. If most of the increasing

population on Earth were to have access to the life styles of the highest-consuming countries, the planet has no chance of sustaining the demand – it is a development path completely unsustainable. Edward Wilson put it very simply: “To raise the world to the U.S. level with existing technology would require two more planet Earths.”

So these are a few important facts and trends of our world in the 21st century. Are we truly equipped to deal with its complexities and contradictions? I believe not. And for this reason I have identified at the beginning the need for a new type of education --- an education capable of empowering us to follow paths of freedom through the development of our full potentialities.

At the Fondazione Mondo Digitale we are trying to make a humble contribution through the development and effort to implement what we call an Education for Life. We are doing so strongly compelled by the huge challenge faced in Italy by the young and the old, namely, to take the country back among the leading, most dynamic nations on Earth through creativity, innovation, entrepreneurship and, fundamentally, inclusion and responsible citizenship. Here, Einstein’s wise words sound most relevant: “We cannot solve our problems with the same thinking we used when we created them.”

Education for life aims at this change of thinking for a better world and it happens at the crossroad of six elements. Three of these elements are of content and include: **first**, *standardized knowledge*, which we know from the formal educational system such as schools and universities; the didactics of standardized knowledge is undergoing important transformation as a result of the arrival and use of information technologies; **the second element** is *life skills or competences* such as problem-solving, creativity, teamwork, innovation and entrepreneurship; *life skills* find little systematic integration in the educational system, although they are found in the work of many innovative teachers; **the third elements of content** are *fundamental values for responsible*

citizenship such as solidarity, integrity, social responsibility, caring for others and the planet, that today receive little systematic attention in prevailing educational systems. Along with these three types of content, we have three types of learning: **first** is the well-known *lifelong learning*, implying the need for continuous learning throughout our lifespan; **the second** is *life-wide learning*, implying processes of learning in all ambits of life, including home, the community, the workplace, even the virtual space: and **the third type** is *life-deep learning*, implying transformative learning for human development above all the transformation from closed, passive thinking and attitudes to open, proactive thinking and attitudes.

This type of Education for Life find precedents in important schools of thought and contributions about education, for instance, the 1996 Delors Report *“The Treasure Within,”* and Howards Gardner’s *“Five Minds.”* The fundamental issue, then, is how to transform the vision of Educational for Life into practical realities of educational innovations that help equip humanity for the challenging journey of complex life in this century. At the FMD we have devised a pioneering physical/virtual environment that we have called Phyrtual InnovationGym, a place dedicated to self-awareness, team-building, problem-solving, creativity, entrepreneurship and innovation across the board: technological, social, civic, and personal innovation. The InnovationGym makes use of all the most advanced forms of learning, starting with experiential, active learning in a variety of labs equipped to learn about life competences and professions of high value today and in the future. So we have spaces dedicated to FabLab, RoboticsLab, VideoLab, GameLab, ImmersiveLab, as well as space for team-building, leadership and Lego Serious Play. We want the InnovationGym to be the place where inventing and constructing means inventing and constructing oneself, discovering means discovering oneself, creating and innovating means creating and innovating oneself and, ultimately, becoming an entrepreneur of oneself. And we have an ambitious dream: to see many InnovationGyms of different size and configurations arising in one city after another, particularly in the world of schools. Just as laboratories of physics,

chemistry, information technology, and physical education exist, we imagine the creation of “phyrtual” InnovationGyms in all schools. We have taken the first steps into this long journey by stimulating the creation of a network that already has over 100 schools throughout Italy – we are not alone in the adventure towards an inclusive Education for Life in this century.

Above all, we are not alone because we have across the planet the immense wealth of generous projects and activities such as those you have created for the benefit of others and that have given us a wonderful motive to gather here, today, under the historical gaze of Julius Caesar, to celebrate the best aspects of our contradictory human nature. It is you and your generous projects and those of countless other people that constitute the greatest reservoir of hope, experience, and energy to realize the spirit of Education for Life. Your projects are already the closest we have to the dimensions of Education for Life and they and others you will no doubt create in the future are a platform to offer people, educational institutions, other organizations, and communities, multiple paths to meaningful formative experiences. They are also a platform to mobilize cooperation among different sectors of society, calling the forprofit sector, the social sector, the government sector and the community sector to work together with imagination and determination to face up together the great challenges of this century.

Ladies and gentlemen, as I close this speech, I wish to express my profound gratitude to the people who have made the Global Junior Challenge 2015 such a fantastic and valuable experience. First, I thank the Municipality of Rome and everybody at the Fondazione Mondo Digitale for their unflinching motivation and total dedication to make another great success of the event. I thank my fellow members of the jury for generously and efficiently devoting their time, expertise and sound judgement to fulfil the difficult task of identifying the winners among so many really worthy projects. We have always said it, we are all winners in the Global Junior Challenge for the simple fact that together we have created and celebrated beauty. Finally, I wish to thank

wholeheartedly, you, the projects and their creators, for keeping alive the flames of creativity and innovation, for dreaming, and for contributing to an *Education for Life* for a better humanity in this century.

Thanks!!