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Science discoveries, technology advancement and values*

Your Excellency Prime minister Djukanovic, your excellencies ambassadors, very distinguished participants of the conference Values and XXI century.

The twentieth century saw more change than any previous century: change for better, change for worse; change that brought enormous benefits to human beings, change that threatens the very existence of the human species. Information pollution, advance technologies and scientific discoveries are affecting our lives worldwide and elsewhere. There would be difference in outcome of societal changes happened rapidly, especially due to new knowledge, as a drastic ruptures or occur of slow accommodation to coming fast transitions. There is no doubt that many results of scientific research have contributed, in important magnitude, to quality of life of many people in the world and sustainable development in the past, especially in XIX and XX century. In fact, the expansion of sciences and the transformation of societies induced by the development of scientific knowledge and technologies have never been so important in the history of humankind. On top, recent globalization has further increased the circulation of knowledge, especially scientific knowledge and technological know-how. Thus, our life has been heavily transformed day by day, thus experiencing nothing similar to our granfather's way of living. This change will certainly increase in the future. So, is it possible to claim that from that perspective scientist and their discoveries have no responsibility for changing the societies?

* Welcome speech

We often hear more and more about shortages: energy shortages, food shortage, water shortages and so on. The legitimacy of universal values, like justice, equality, solidarity, humanity and liberty, has been called into question by many countries. Some governments apparently do not agree that human rights apply to everyone, at all times and in all places, even though all members of the United Nations have adopted the Universal Declaration of Human Rights. There is an increasingly large countermovement that maintains that human rights are a Western invention or how Kishore Mahbubani¹ has dismissed the emphasis on human rights as 'ideological triumphalism'. But it is fair to say that there is nothing triumphalistic in them. It is fairer to say that it is nothing less than a moral duty to people whose governments prevent them from living their lives in dignity. It is not the only what affects the universal and human values. On top, it can even be said that there is a growing *moral* deficit in the world.

To make the world a safer and more equitable place, we need an international order. However, that international structure is under tremendous pressure; we would be remiss to overlook that. The Americans find the management of the United Nations inadequate. The Asians find it 'absurd' that the presidents of the World Bank and the IMF still have to be an American and a European, respectively – and that the 3.5 billion representatives of the world's fastest growing economies are by definition excluded from those positions. India and Brazil no longer accept being denied a permanent seat on the Security Council, which still reflects the balance of power in the immediate aftermath of the Second World War. These are all justifiable criticisms that undermine the legitimacy of our international order and many values. Consequently, many turn their back on the international system, because they can't identify with it. This in turn saps overall effectiveness and credibility, since the system is only as strong as the states that comprise it and values they practice.

However it is important to recognize that there is necessity to introduce some control mechanism and procedures on the possible effects that new knowledge can generate: these actions of control include factors like social responsibility as well as awareness about the consequences that can take place. This does not mean that the scientific process should be stopped; it has to follow its own course. What is needed is to watch application and possible consequences of scientific discoveries and their effect on the values, especially to distinguish between when scientific advances are rejected for ideological or religion reasons and when they are abused because of treat to the society. Dual-use of

¹ Singapore philosopher

the scientific discoveries has become concern of today's society. On top, many ethical issues are strongly related to the role of politics in science, and the issue of who has access to information and decisions in this field, on what basis and what procedures for oversight accountability are in place. Thus, for example, is research in the human embryonic cells scientific or moral issue? Not less important: may it be allowed to create human elite who want to increase intellectual abilities by artificial intelligence and by genetic engineering, not trying at the same time to introduce control mechanism.

Thus one of the major issues is which values should be kept while doing much scientific research. What are, in that sense, long-term rights and responsibilities of scientists and corporations which invent, develop and distribute scientific advances? On top, should codes of ethics and behavior of international corporations, in the time of globalization, be developed and enforced by voluntary organizations, governments, industry associations or some combinations of these? One has to have in mind that all corporations are non-democratic and even amoral by legal precedence. The system of values has to be defined as the freedom that has the people, the organizations and the society to act correctly in certain scopes, to create citizen and social conscience for the construction of better future for the nations. Thus is it ethical for nations to collaborate in order to manage the planet while one of them is dominating the others? In particular it is very important to distinguish which ethical issues should be considered such to prove activities which restrict national suzerainty.

An intrigue issue is: What is the place of God in society? Should religious, democratic, or other claim of certainty and/or superiority be denied as basis for acts of private or public violence? How is possible to create the society of equal tolerance among all groups, including those claiming to be chosen people of God? The border separating science and religion can become sharper or more blurred. Many of new knowledge issues will create conflicts between religious and non-religious groups. The result will be that new technologies and techniques will emerge that will directly compete with religious interpretations, including new methods of conflict resolution that traditional power structures have no way to define themselves against. In this context the question is which morality should prevail: western culture written by Judeo-Christian values will be giving different answers than other cultures, for example, Chinese or similar.

Many events, behind new knowledge and technology can provoke major shifts in values: unexpected disasters the most. Climate changes and resources depletion influence lives of people in society and they will have the greatest influence on peoples value response to environment, social and economical issues.

One of the major questions which arise from the advancement of science and technology is: should we stick to traditional values as they would be universal values accepted by all such as: freedom, democracy, solidarity etc. Not less important is should the individual freedom be limited by collective security which will more and more depend on the possible dual use of new knowledge. Obviously the life of human being will converge to mix of individuality and collective responsibility. The new individuality will not be based only on economic and material success, as today, but more on quality of life which will include individual and collective responsibility to less developed countries and environment.

Advances in science and technology, more widespread knowledge and higher living standard will be the major for „increase” or „decrease” of values. Some of them will increase in the near future since technology is not advanced enough, but will decrease latter when technology will allow such advancement that the lost values might become important again. How can we tackle this unevenness in the rate of progress of different areas of science? Two ways come to mind: one, by accelerating the rate of progress in the social sciences; two, by slowing down the rate of advancement of the natural sciences in some areas, for example, by the imposition of ethical codes of conduct. Right now we need economical advancement to reach happiness, but when most of the people reach high standard of living other more intellectual values will become more important. These issues need to be considered with more care. Different cultures and religions represent barriers for reaching consensus thus the social sciences and humanities are needed more. This will require integrating science and humanities.

One can say we need to move on from a discussion of values to a discussion of interests, as if these things were mutually exclusive. As it can be seen, values and interests go hand in hand! It is impossible to imagine a world where many developed countries would have undergone the same development – a high standard of living, economic and political stability – without embracing and promoting those values.

Would the globalization, international order, new scientific knowledge and technologies keep changing values such to manage the society as it was proposed by a scientist contributing to Millennium goals project:

„I firmly believe that ethical considerations based on tradition and religious beliefs will tend to disappear and give way to a more scientific, technological and economical world; a world in which the human being, the individual, and the traditional concept of ethics will tend to disappear to give way to a new ethics of pragmatism, technology and collectivism. The traditional nucleus of society-family- will disappear; the concept of offspring will disappear, the human being will be seen by itself as a couple of chemical reactions inside the bag. Birth and death will not be the basic points of life but singularities of machine. The machine society in which society in which human being is just another machine, that is ethics of the future; no ethics at all we see it today; no values at all as we see them today. Good and bad will have no meaning for the future generations.”

Obviously, the 21st century will bring the challenge of control.

Let me at the end wish you very successful Conference and pleasant stay in Montenegrin Academy of Sciences and Arts.

