

PONTIFICAL COUNCIL FOR CULTURE

PLENARY ASSEMBLY

Vatican, November 15-18, 2017

The Future of Humanity

New Challenges to Anthropology

I. PRESENTATION OF THE THEMES

Introduction

We are living through a period of profound social and cultural change. Previous plenary assemblies have studied these changes by focusing on the new languages and grammars of communication (2010), youth and new emerging cultures (2013), new forms of participation of women in culture (2015). The deepest transformations, however, do not regard any particular aspect of society, but rather what it means to be human; fundamental anthropological questions are in play. To announce the Gospel to people today, the Church must present its ideas in ways that are culturally accessible and credible.

The *general aim of the Plenary is to open up a dialogue about the future of humanity*, looking at some fundamental questions such as the concept of human nature, the relation between mind and body, the role of the person in a society of intelligent machines. These are some of the themes we believe deserve our close attention. In fact, among other things, recent decades have seen extraordinary scientific developments that have a direct impact on the self-understanding of the human person, in particular, in the fields of genetics, neuroscience and artificial intelligence. These developments have the power to transform radically many aspects of human life and they oblige us to think again about how we understand human health and well-being, both physical and psychological; about our comprehension of human responsibility and free will; and about the emergence of machines capable of using types of intelligence, language capacities and reasoning powers that we would have previously considered as being exclusive to human beings. These developments call not only for moral evaluation, but, more radically, they require us to re-examine the ethical and anthropological categories traditionally used to make such value judgements.

One aim of the plenary is *to understand better the cultural contexts* where these developments are emerging. To this end, there will be a presentation of the state of scientific research on these issues, outlining potential applications of recent scientific discoveries and technological innovations as well as their likely impact on areas such as medicine and healthcare, economics and business, politics and social policy.

At a deeper level we must try to understand the aims, objectives and motivations of those who promote scientific research so as to engage with them and address the philosophical and anthropological presuppositions underlining their understanding of what it means to be human, and the conception of human life and society that is influencing the direction of their research. This is important in a world where research is globalized and not everyone shares the same cultural and ethical traditions. These suppositions and conceptions are often implicit rather than articulated, and yet they are the fundamental premises which, whether acknowledged or not, actually determine approaches to ethics. Unless we examine these deeper convictions and subject them to critical reflection, much of our ethical discourse is likely to remain superficial and unlikely to create consensus and agreement.

A second objective of the plenary is to encourage a multiplicity of research approaches and an interdisciplinary synthesis so that different points of view on these issues can illuminate each other. This will serve to promote an awareness that the questions about the future of humanity and the impact of science and technology need the attention of a wider public and cannot be left exclusively to the scientists. In fact, it is not only a matter of judging the developments in research, but of establishing criteria to decide the orientation scientific research should have, not basing itself exclusively on technical or economic criteria. Such an interdisciplinary approach will help us avoid what Pope Francis in *Laudato Si'* calls the *technocratic paradigm*, which makes the method and aims of science and technology the exclusive epistemological paradigm that shapes the lives of individuals and the workings of society. Such a paradigm generates a reductionist or unidimensional approach to life and needs to be complemented with the insights of other forms of wisdom. This implies a cultural approach that could foster “a distinctive way of looking at things, a way of thinking, policies, an educational program, a lifestyle and a spirituality” (*Laudato Si'*, 111).

This approach combines analysis, critical evaluation and pastoral response and aims to create a situation where believers feel entitled and welcome to bring the insights of their traditions to such discussions: “We need to develop a new synthesis capable of overcoming the false arguments of recent centuries. Christianity, in fidelity to its own identity and the rich deposit of truth which it has received from Jesus Christ, continues to reflect on these issues in fruitful dialogue with changing historical situations. In doing so, it reveals its eternal newness” (*Laudato Si'*, 121).

Important questions to be considered include the following: How can we establish whether progress truly respects human dignity? Who will determine what are ethically objectionable or unsafe forms of research and experimentation? How will research be funded and who will own the intellectual and economic proprietary rights to new applications? These and similar questions are already receiving deserved attention from journalists, writers and film-makers and consequently have become themes in popular culture. In the context of the plenary, we hope to open up a deeper and more sustained dialogue on these themes, and to allow the more profound issues concerning human identity and the point and purpose of life, already being addressed by philosophers and theologians to surface and contribute to public discourse.

1. The Ground Map (Anthropological models)

For centuries, in the different religious and philosophical traditions, a clear answer was available to the question “What is man?” One knew what it was to be a human, and what it was that gave humanity its uniqueness and specificity in the world. In the current cultural context, this certainty dissolves and it is harder to give a response to the question of the identity of the human being.

In broader terms, it could be said that in the Western world, since ancient Greek times, the vision of the person has been built on the basis of a dual scheme: soul and body, subject-object. In some cases, as in the platonic model, this dual scheme becomes a veritable dualism; in others, such as the Aristotelian model, the two distinct realities are integrated. The Church has followed Aristotle’s dual model, with Thomas Aquinas reformulating it to speak of the human person, of our capacities, and of our destiny after death. This model – rooted in an integrated biblical anthropology – brought about the development of fundamental concepts such as the individuality of the person, autonomy, personal responsibility, and inalienable dignity.

Oriental philosophical traditions, on the other hand, have generally underlined the holistic and “Unitarian” dimension of the human person and our interconnection with the rest of nature. Eastern thought, even with its diversities, tends to consider the human person from a relational point of view. Internal equilibrium, harmony with nature, and continuity between matter and spirit are ever-present elements in this vision.

New currents of thought bring into discussion concepts that seemed to have been settled once and for all, such as the distinction between the sexes, the relation of paternity and maternity, the dignity of each person, personal responsibility for our actions, immortality, the uniqueness and superiority of humans over animals. Moreover, new technological possibilities are radically modifying these assumptions and opening up new possibilities.

For some, humanity is coming closer to a turning point (or has reached it already!), an overtaking of its own species thanks to the new technological possibilities. They welcome these as the dawn of a new horizon for humanity. For others, these social and cultural changes are catastrophic and are incompatible with a Christian vision.

A task of the plenary will be that of outlining the anthropological models underlying, often inexplicitly, the new ideologies and cultural models, studying them and their dynamics and hidden influences. This will permit us to trace a sort of map of anthropological models, those of the past and those of the future. Only in this way can a moral evaluation be made examining the ethical problems that such cultural currents pose.

In this context, it is a question of understanding how to continue speaking of a distinction between body (matter) and soul (spirit) or of responsibility, dignity, immortality, eternity, in a way that is meaningful to our contemporaries. Finally, it is a question of understanding how these issues affect the pastoral life of communities and individuals and what pastoral responses can be offered.

2. Redesigning Human Nature (Medicine and Genetics)

From the seventh century onward, an articulated reflection developed on *nature* that was assumed by Christianity as one of its basic concepts and would define a certain type of Western sensitivity. The concept of nature had two distinct meanings. It indicated the unity of those things that are natural, or subject to an order, a rule, and the normal process of the laws of nature; and secondly, it delineated the essential properties and specific causes of individual things.

By defining nature as the intrinsic and final principle of movement and of rest present in itself, primarily and not accidentally (*Physics*, II, 1, 192b), Aristotle traced an important conceptual path. This allowed Christianity to follow placing the discourse on nature within the horizon of the first cause, which is understood in a supernatural sense. Nature, then, would not be a consequence of casual material processes, but would have its own foundation in the Absolute Being (Creator), who is its guarantor in the order of existence and essence. Nature, then, took on deterministic traits in as much as it had a precise order that depended from the will of God. In this perspective, the human being was also placed in close relationship to the Creator and subject to his divine plan.

At this time, there is no longer a unique model of nature that is shared universally, either by philosophers or those of the world of technology and science. In fact, from the sixteenth century onward the vision of nature has undergone a gradual transformation, appearing ever more chaotic and disordered. At the same time the belief has emerged that control is needed to obtain the maximum benefit in the absolute interest of human beings. This has paved the way not only to a desire to look “inside” things and “inside” nature to better understand them, but also in order to control and modify them.

This evolution of the understanding of nature brought with it a consequent redefinition of humans and their essential characteristics. Looking “inside” the biology of the living organisms led to the discovery of DNA, which allowed us to uncover the complexity of cell processes. At the same time, studies of DNA indicated that it is an essential, but not rigid, element; it is flexible to the point that it can be modified.

Recent research in the sphere of applied biology notably accelerates and expands the possibilities of genetic engineering. This can be seen in the development of tools for genetic editing such as CRISPR/Cas9. The modifications of DNA can serve different purposes. Some research aims at eliminating diseases but genetic engineering can also be used to improve or enhance the human genotype radically. Supporters of this latter idea imagine the human being to be a new edition, updated and strengthened, marking a new frontier in the history of humanity expressed in so-called transhumanism (which uses science and technology to improve physical and cognitive abilities to overcome undesirable aspects of the human condition) or post-humanism (a successive step in human evolution thanks to the bio- and nanotechnologies.)

From the anthropological and cultural perspectives, many issues are raised by the effort to manipulate DNA and create a stronger new genotype. There is the question of “speciation.” Will strengthened human beings still be part of the species *homo sapiens*? Will there be new inequalities

created between those who belong to the enhanced species and those that remain “normal”? What will be the new species’ identity, social status, bond of belonging, and validity of ethical reference?

Finally, all these anthropological questions invite theological reflection: What is the meaning of these mutations within the salvific plan of God? Are interventions by humans at the heart of life and on human beings part of the task of safeguarding and co-creation assigned to humans by God? Are they an abuse, an expression of our hubris in seeking to substitute God? How can these things be integrated in a coherent theological vision that helps pastors and the faithful?

3. The human person, the brain and the soul (Neurosciences)

In ancient times, the human was considered to be a microcosm, not on the basis of in-depth scientific study, but rather on the basis of an intuition and philosophical and theological ideas. Today more than ever this definition could be recovered, albeit with some clarifications and limiting the application of this term to one single organ, the brain.

Most of the questions coming from the neurosciences go in two directions. The first is functional: in what way does the biological-physiological strata describe and govern the human person? The second, of a more philosophical character, asks in what way the human being can be identified exclusively as the brain and how far can we go in thinking of the human being as being determined by the brain.

Concretely, there are many problems today that are receiving attention from the neuro-cognitive sciences: the relationship of mind and body, the origin of religiosity, the phenomena of biological/physiological determination of the brain, the significance of human activities such as choosing, feeling and believing; the implications of discoveries about the neuronal bases of knowledge, and the question of freewill. These issues raise fundamental questions of human identity.

We need to consider the extent to which many of our basic human capacities are the results of molecular and chemical processes at work in the brain. This raises the question of which functions of the brain are to be considered most significant. Should we focus on functions that are reflexive, where the brain responds to impulses from the outside, or intrinsic functions, concerning the maintaining of information for interpretation, response, and even prediction of environmental impulses? These issues go to the heart of human understanding that is the object of scientific research and invite us to consider to what extent this knowledge can be harmonized with the anthropology of our Christian tradition.

4. In the society of intelligent machines (Artificial Intelligence)

The fourth working session focuses on the impact of the so-called “digitalization” on the future of humanity. In particular, this session will examine the potential of developments in *machine learning*

and artificial intelligence to transform or – to use the vocabulary of these sectors – to “disrupt” the established patterns of human behavior and activity.

It is already clear that the “third machine age” and progress in robotics have consequences in the mechanization of administrative, bureaucratic and production tasks that previously were envisaged as capable of being performed only by humans. What does this mean for the future of work? How will those who lose traditional types of employment find value and purpose in their lives? Do such developments inevitably lead to a growth in social and economic inequality between those who will develop, program and own such machines and those who will be displaced from their workplaces?

As machines develop, they are becoming increasingly autonomous. Self-driving cars, automated weapons systems are already well advanced. How can such autonomous systems be programmed in terms of decisional processes? What ethical capacities can be programmed into the algorithms that seek to anticipate potential scenarios and determine best responses? Who will ultimately be legally and ethically responsible for the actions of such machines?

There is a growing concern about the development of *artificial general intelligence* or *strong AI*, where the systems are programmed not just to perform repetitive tasks, but also to obtain a form of real autonomy. It is a matter of developing the ability of machines to re-program themselves with a view to attaining a “self-consciousness” equivalent to the concept of a mind, but remaining distinct from the processes of human thought. These concerns have been raised by writers and film-makers, but they have also drawn the attention of scientists. Stephen Hawking has warned that “the development of full artificial intelligence could spell the end of the human race. Once humans develop artificial intelligence, it will take off on its own and redefine itself at an ever-increasing rate. Humans, who are limited by slow biological evolution, couldn’t compete and will be superseded.”

Others, more optimistically, embrace the possibility of artificial intelligence and technology leading to the emergence of a new forms of super-intelligence and a point of *singularity* – *the accelerating progress of technology and changes in the mode of human life give the appearance of drawing closer to some essential singularity in the history of the human race, beyond which human affairs cannot continue as we know them*. Some support transhumanism, which looks to science to use new technologies, genetics and neuroscience to transform the physical and intellectual capacities of humans to escape our natural conditions and limitations, to the point of being possible to speak of the emergence of posthuman beings. Some see a fusion between human beings and machines: this is a matter of implanting chips to strengthen the memory and augment intelligence of the subject (*cyborgs*) or to “download” the brain, considered as the center of the personality and identity of the individual, on a digital system, where biological limits can be overcome.

5. Aims and method of the Plenary

The scenarios set out above – new anthropological models, the possibility of transforming the body offered by medicine and genetics, new ethical challenges from the neurosciences, and social and anthropological transformations from the development of machines – would until recently have

seemed to belong to the realm of fantasy and fiction. Now they have been partially realized, and pose immediate challenges for the theology and the pastoral work of the Church. In order to be of service of the broader Church community we wish to make a leap of imagination to seek to understand how the world of the future might be and how we could respond to the deepest questions of the men and women who will live in that world, and to some extent are already living in that world.

Each of the four sessions, corresponding to the four themes into which the working sessions of the plenary is divided, will be opened by a talk (prolusion) by experts who will present the theme and offer some initial pastoral orientation. These orientations will form the basis of the discussions within different linguistic working groups and subsequently by all the participants together. It is hoped that a final document will be published within a month of the plenary.