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Audience with the participants in the Plenary Assembly of the Pontifical Academy for Life

At 11.20 this morning, in the Clementine Hall of the Vatican Apostolic Palace, the Holy Father Francis received in audience the participants in the Plenary Assembly of the Pontifical Academy for Life, which celebrates the twenty-fifth anniversary of its founding this year.

The Assembly, taking place from 25 to 27 February in the Vatican's New Synod Hall, will focus on the theme: "Roboethics: Humans, machines and health".

The following is the Pope's address to those present:

Address of the Holy Father

Dear brothers and sisters,

I cordially greet you on the occasion of your General Assembly, and I thank Archbishop Paglia for his kind words. This meeting takes place in the first Jubilee of the Academy for Life: twenty-five years after its birth. On this important anniversary, last month I sent the president a letter entitled *Humana communitas*. I was moved to write this message first of all by the wish to thank all the presidents who have guided the Academy, and all the Members for their competent service and generous commitment to protecting and promoting human life during these twenty-five years of activity.

We know the difficulties with which our world struggles. The fabric of family and social relations seems increasingly to wear away, and there is a tendency to become wrapped up in oneself and one's own individual interests, with serious consequences for the "the decisive global issue

of the unity of the human family and its future" (Letter *Humana communitas*, 2). A dramatic paradox is thus outlined: just when humanity possesses the scientific and technical capacities to achieve a justly distributed well-

being, in accordance with how it was delivered by God, we observe instead an exacerbation of conflicts and an increase in inequality. The enlightenment myth of progress is declining and the accumulation of the potentialities that science and technology have provided us does not always attain the desired results. Indeed, on the one hand, technological development has allowed us to solve problems that were insurmountable until a few years ago, and we are grateful to the researchers who have achieved these results; yet on the other hand, difficulties and threats, sometimes more insidious than the previous ones, have emerged. The possibility of doing something risks obscuring both the person who does, and the person doing it. The technocratic system based on the criterion of efficiency does not respond to the most profound questions that man poses; and if on the one hand it is not possible to do without its resources, on the other it imposes its logic on those who use them. Yet technology is characteristic of the human being. It should not be understood as a force that is alien to and hostile to it, but as a product of its ingenuity through which it provides for the needs of living for oneself and for others. It is therefore a specifically human mode of inhabiting the world. However, today's evolution of technical capacity casts a dangerous spell: instead of delivering the tools that improve their care to human life, there is the risk of giving life to the logic of the devices that decide its value. This reversal is destined to produce nefarious outcomes: the machine is not limited to driving alone, but ends up guiding man. Human reason is thus reduced to rationality alienated from effects, which cannot be considered worthy of mankind.

We see, unfortunately, the serious damage caused to the planet, our common home, from the indiscriminate use of technical means. This is why global bioethics is an important front on which to engage. It expresses awareness of the profound impact of environmental and social factors on health and life. This approach is very in tune with the integral ecology described and promoted in the Encyclical *Laudato si'*. Moreover, in today's world, in which there is close interaction between different cultures, we need to bring our specific contribution as believers to the search for universally shared operational criteria, so that they may be common points of reference for the choices of those who have the serious responsibility for taking decisions on national and international levels. This also means engaging in dialogue regarding human rights, clearly highlighting their corresponding duties. Indeed these constitute the ground for the common search for universal ethics, on which we find many questions that tradition has dealt with by drawing on the patrimony of natural law.

The Lettera *Humana communitas* explicitly recalls the theme of “emerging and converging technologies”. The possibility of intervening on living material to orders of ever smaller size, to process ever greater volumes of information, to monitor – and manipulate – the cerebral processes of cognitive and deliberative activity, has enormous implications: it touches the very threshold of the biological specificity and spiritual difference of the human being. In this sense, I affirmed that “The distinctiveness of human life is an absolute good” (4).

It is important to reiterate: “Artificial intelligence, robotics and other technological innovations must be so employed that they contribute to the service of humanity and to the protection of our common home, rather than to the contrary, as some assessments unfortunately foresee” (Message to the World Economic Forum in Davos, 12 January 2018). The inherent dignity of every human being must be firmly placed at the centre of our reflection and action. In this regard, it should be noted that the designation of “artificial intelligence”, although certainly effective, may risk being misleading. The terms conceal the fact that – in spite of the useful fulfilment of servile tasks (this is the original meaning of the term “robot”), functional automatisms remain qualitatively distant from the human prerogatives of knowledge and action. And therefore they can become socially dangerous. Moreover, the risk of man being “technologized”, rather than technology humanized, is already real: so-called “intelligent machines” are hastily attributed capacities that are properly human.

We need to understand better what intelligence, conscience, emotionality, affective intentionality and autonomy of moral action mean in this context. Indeed, artificial devices that simulate human capabilities are devoid of human quality. This must be taken into account to guide the regulation of their use, and research itself, towards a constructive and equitable interaction between human beings and the latest versions of machines. Indeed these spread throughout our world and radically transform the scenario of our existence. If we can also make these references bear weight also in action, the extraordinary potential of the new discoveries may radiate their benefits on every person and on the whole of humanity.

The ongoing debate among specialists themselves already shows the serious problems of governability of algorithms that process huge amounts of data. Likewise, the technologies for the manipulation of genetic

makeup and brain functions also pose serious ethical questions. In any case, the attempt to explain the whole of human thought, sensitivity, and psychism on the basis of the functional sum of its physical and organic parts, does not account for the emergence of the phenomena of experience and consciousness. The human phenomenon exceeds the result of the calculable assemblage of the individual elements. Also in this context, the axiom according to which the whole is superior to the parts takes on new depth and meaningfulness (see Apostolic Exhortation *Evangelii gaudium*, 234-237).

Precisely in this area of the complexity of the synergy of *psyche* and *techne*, on the other hand, what we are learning about cerebral activity provides new clues about the way of understanding the conscience (of self and of the world) and the human body itself: it is not it is possible to disregard the interweaving of multiple relationships for a deeper understanding of the integral human dimension.

Of course, we cannot make metaphysical deductions from the data provided by empirical sciences. We can, however, draw from them indications that instruct anthropological reflection, in theology too, as has always happened in its history. It would indeed be decidedly contrary to our more genuine tradition to become set on an anachronistic conceptual apparatus, incapable of adequately interacting with the transformations of the concept of nature and of artifice, conditioning and freedom, means and ends, induced by the new culture of acting, typical of the technological era. We are called to place ourselves on the path undertaken decisively by Vatican Council II, which calls for the renewal of theological disciplines and a critical reflection on the relationship between Christian faith and moral action (cf. *Optatam totius*, 16).

Our commitment – also intellectual and specialist – will be a point of honour for our participation in the ethical alliance in favour of human life. A project which, in a context in which increasingly sophisticated technological devices directly involve the human qualities of the body and the psyche, it becomes urgent to share with all men and women engaged in scientific research and care work. It is a difficult task, certainly, given the fast pace of innovation. The example of the teachers of the Christian intelligence, who entered with wisdom and audacity in the processes of their contemporary world, with a view to an understanding of the patrimony of the faith at the level of reason worthy of man, must encourage and sustain us.

I hope you will continue your study and research so that the work of the promotion and defence of life may be increasingly effective and fruitful. May the Virgin Mother assist you and my blessing accompany you. And please, do not forget to pray for me. Thank you.
