

Centesimus Annus Pro Pontifice (CAPP)

Integral Ecology for the Digital Age (based on German contribution)

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Laudato Si has often been characterized as an ‘environmental’ encyclical, calling for better taking care of the creation and the natural environment. While this obviously is an important part of Pope Francis’ message much more is included in Laudato Si: the call for a just and inclusive human civilization, for a better integration of the needs of the marginalized and poor, and for distributing and using power in a way that supports human life everywhere on Earth. The postulate for an integrative ecology exactly comprises both aspects: taking care of the natural environment and of developing a good society as well. The digital age brings together both aspects even closer and strengthens the necessity for developing an integrative and human-friendly ecology.

The digital age transforms our economies, societies, political systems, cultures, and everyday lives. In many ways, digitalization has made our lives easier. We can instantly communicate across the globe. We can save, copy, and share enormous amounts of data. We have better tools to cure deadly diseases such as cancer and to fight climate change. Digitalization offers many more promises, from autonomous cars to the use of robots to assist elderly people. However, there are also many concerns, in particular for the future of human labor, for solidarity getting under pressure facing increasing and global competition, and for loss of social cohesion in the course of individualization and fragmentation in (mostly Western) societies. Even the future of mankind is called into question because some expect that algorithms and robots could take over full control.

My professional work is dedicated to technology assessment, which is science-based policy advice including ethical consideration of new technology. My institute gives advice to the German Parliament and to the European Parliament as well, also to ministries and authorities. I observe high awareness on many developments towards the digital age. However, Western policy-makers mostly are concerned with economic competition, with the future of the labor market, with the problems of fake news and manipulation in political communication over the Internet, with data protection and privacy. However, the many relations of the ongoing digitalization with environmental and sustainability issues mostly are less perceived, similarly issues of justice, equity, and development in global relations.

There are some challenges included in the current stories and visions but also in current development on ongoing digitalization, at least to some extent, which I would like to emphasize:

(1) Access to digital technologies and services is by far not fairly distributed over countries and humans. There are strong ‘digital divides’ between the North and the Global South but also within many countries. This situation is rarely an issue in Western countries. Regarding the many potentials of digital technologies for improving human life also for the poor and

marginalized (e.g. with respect to education and access to public affairs) much more effort must be taken to improve the possibilities for marginalized people and countries to benefit from digitalization.

(2) Shaping the ongoing digitalization seems in particular important in the field of labor, which has been a major issue in Catholic Social Doctrine from its very beginning. Algorithms and robots allow for fast automatization of many fields of the economy. Because automatization always results in situation with winners and losers as well, it is necessary to carefully observing the replacement of human workers by robots and algorithms, to enable people to get more options and opportunities for a changing world of labor by improving education. Also the change of quality of work fueled by digital developments such as crowd-sourcing and crowd-working is an increasingly pressing issue. Increased competition, less influence of trade-unions, loss of stability and safety in a world governed by work contracts and regulations (which are have been developed at least in parts of in the Western World) can cause damage to solidarity and to social cohesion, and to social assurance systems as well. In a global and libertarian World digital economy is difficult to regulate. It is also difficult to establish solidary and just balances between the interests of actors in the economy and the common good. Shaping the future of work is a major challenge for all states. An integral ecology to be developed has to take this need into consideration.

(3) The interrelations between digitalization and the environmental crisis are a blind spot of the societal debate on the digital age. Often we are under the (false!) impression that our digital activities are by nature “green” and “good” for the environment. Yet we forget that the production of computers, smart phones, and batteries require energy and rare earths and ignore how these technologies are produced. In particular, there are many challenges at the interface between digitalization and climate change. It would be helpful to establish research centers or endowed university chairs to study these topics in depth. Mining and refining rare earths and other metals has, as an example, serious environmental (in some countries also social!) consequences if not properly managed. Recycling digital waste poses another challenge. Too often, the global South, especially African countries, become the digital dump of prosperous countries. However, the digital progress of the West must not take place at the cost of polluting the developing world and endangering its people.

(4) Anthropologically speaking, we can observe the emergence of an increasingly “negative” view of the human person. Some managers, computer scientists and journalists already argue that robots are “better” or “more efficient” than humans. Others believe that algorithms could potentially be better politicians or employers. Whenever we fall into the trap of believing in the inherent supremacy of digital technology, a troublesome anthropology is emerging on the horizons of the digital age. To counter the technological ideology of regarding humans as a kind of machines driven by natural and technical laws, the German section of CAPP strongly argues for a robust and Christian form of anthropology. If digitalization is to serve man, it is crucial to have a clear understanding of the origin, nature, and destiny of the human person. The digitalization raises the question for who we humans are, how we want to be, and how we see our future not only in relation with nature but also with technology. Man is made in the image of God, as Christians believe, and has an inherent inalienable dignity, as also philosophers like Immanuel Kant diagnosed. Man has capacities

that no machine or robot has. Normatively speaking, it is man that can distinguish between how things are and how things should be. Man can develop counterfactual realities and envision a better future. Man is a dialogical being with feelings. We can make sovereign, ethical decisions rather than simply following pre-given algorithms or programs. Therefore, to paraphrase Holy John Paul II, digitalization is “for man” and not man “for digitalization”. Digitalization is a means to promote the well-being of man. It is not an end in itself. This is why humans have to remain the shapers of digitalization rather than its object or even its victim. Humans must not delegate ethical decisions to computers or algorithms. We are called to assume responsibility and to make ethical decisions by ourselves.

(5) A major problem related with current perceptions of digitalization relates to the idea of technology determinism. There is a worrisome tendency to worship or idolize digital visionaries. There is also increasing political and economic pressure “to get ready”, “to adopt”, “to adjust” to the more and more digitalized life. The dominant story in policy-making and in the economy is that we shall adapt ourselves to the digitalized world coming as fast as possible. This view, however, contradicts scientific knowledge about how technology and society develop. The future is never fixed. Humans have both the capacity, the freedom, and the responsibility to make informed decisions about our future, both individually and collectively. In particular, digital technologies and services are not growing, determined by natural laws, but are made by humans. Any decision on new technology, new products, and services, is made by humans: by computer scientists, engineers, by managers working for big companies, by secret services, or by authorities. All of them follow interests of the companies and institutions they are working for. The value systems and interests of those institutions include images of what humans are or should be as well as images of how society should function in their eyes. In this way, small groups in a few institutions and companies exert high power over large parts of mankind, keeping in mind that several Internet applications have hundreds of millions of users, some of them even almost one billion. If these applications were developed according other values and interests, the results would look different and, possibly, would better reflect the needs of mankind. Technology determinism is nothing else than the ideology of the powerful and mighty: if we would believe in technology determinism the responsibility of the ‘makers’ of digital technologies would disappear, as well as the question for possible alternatives. Therefore, following *Laudato Si*, we have to resist all forms of technology determinism and fatalism, to ask for alternatives, and to postulate that the development of the digital age must be in accordance with human – and Christian – values, taking care of a good development of all mankind.

Establishing an integral view on social, environmental, ethical and political issues of digitalization is of eminent importance, in accordance with *Laudato Si*. Many actors are in charge of preparing for this way. Companies must adhere to legal, environmental and ethical standards. In their supply chain, companies need to clarify the ecological but also possible social burden, in particular of their digital products, and make them transparent to consumers. Policy-makers have to take their responsibility for ensuring justice and democracy seriously. Customers and users of digital services should take care about their ethical quality. The Roman Catholic Church with its global presence, having no particular stakes with digitalization but a strong voice calling for human-friendly conditions on Planet

Earth, should become more active for debating and shaping global debates around technologies for the future in general, and for the field of digitalization, in particular. The Church could perhaps even take the lead of a global movement towards a good digital future, in accordance for all people in accordance with fundamental ethical issues of dignity, fairness, and solidarity.