

Over the last couple of years, talk about artificial intelligence taking over from us, and of the “rise of the robots”, has moved from science fiction into the news and comment pages of major newspapers. Therefore, although we have all been experiencing to a greater or lesser extent the emergence of digitalization over the last 20-30 years, it is not a surprise that it is this year that the Centesimus Annus Foundation is thinking about CST in a digital age. We sense that digital technology, or “information and communication technologies”, (ICTs), are entering a new phase with a new level of impact on human life. The idea of a “digital age” captures this sense of an all-encompassing environment created by digital technology and to which we need to respond (as we always respond to our environment), and we will come back to that. But the idea of a “digital age” also has the sense of a historical period, and it is the invitation to look at things from an historical perspective with which I would like to start.

For the corpus of teaching to which we usually refer with the term CST starts in another period of significant change, a period when many European countries were still coming to terms with the “industrial age” and struggling with its social impacts.<sup>1</sup> The previous social order, based on the mutual relations between landowners and peasants and an economy in which agricultural work predominated, had been breaking down for decades, with workers migrating to industrial areas to find work and a new life. Here they found new opportunities – sometimes they started to earn income for the first time, for instance, and to experience the new possibilities that this offered them. But they were also faced with new problems: social insecurity, poor housing and unsanitary conditions. The human cost of the industrial revolution was high, and strikes and industrial unrest in the period immediately before *Rerum Novarum* came out had brought the issue to a new level of consciousness. It is no surprise that when RN was promulgated, its main focus of concern was the worker.

When we are thinking about the kinds of social changes we are facing today as a result of digitalization and ICTs, therefore, it is worth remembering how great the social changes were during the process of industrialization when CST was born. The experience of time, for instance, went

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<sup>1</sup> This section of the talk is influenced by various texts, among which could be mentioned Accornero, Aris. 2013, *Il mondo della produzione: sociologia del lavoro e dell'industria*. 4<sup>th</sup> edition. Bologna: Il Mulino.

through a fundamental change. From natural and organic rhythms, with periods of intense work at certain times of the year and others when little work was done, ordinary people were moved to fixed shift times for a fixed number of days each week, partly with the help of much literature focused on “self-improvement” and great battles over “Saint Monday”. Basic habits were (had to be) transformed. The mentality of the general population was shifted towards much greater concern with precision, measurement, and the logical analysis of causes and effects. Production levels were measured precisely, and were due by certain specific dates; parts had to be made with tolerances of error measured in fractions of a millimetre. If a machine broke down on the shopfloor, people no longer necessarily looked for divine help, as they might have done if the crops were not growing well, nor did they beat the machine, as they would have beaten a recalcitrant donkey or mule. Instead, they would start to analyse the problem and to isolate its cause on which, then, they could act – change a part or redesign the machine. It was a time of tremendous change, giving rise to new bodies of thought like sociology, experimental psychology and anthropology. New words were being coined too to deal with the new realities. Industrialisation, for instance, was a new word that spread out from Great Britain as the “industrial age” spread, and is common to most European languages today, whereas the much older word for “work” varies significantly from one language group to another. According to the Oxford Shorter English Dictionary, the word for “unemployment” is only coined in English in 1888, showing us that the concept as such did not emerge until well into the industrial period. It is difficult for us to imagine how great this change of mentality was, as we are so habituated to it.

In this situation of change, CST emerged as both an attempt to re-interpret the moral and social vision of Christianity in terms of the new society, and as a form of resistance against the negative impacts of laissez-faire capitalism and industrialisation. Leo focused on the need to defend the dignity of the worker, with private property and a just wage as key issues, and the need for solidarity between actors (employers and workers together, or workers alone) in order to confront problems. We see here the recognition of good elements within the industrial world, but also a prophetic voice raised against injustice, and both led to a whole series of movements aimed at both putting CST into practice and resisting the evils of the industrial world (Semaines sociales, Jeunesse Ouvrière Chrétienne, JOC, Christian trades unions, political parties of various kinds, and so on). Later in the 20<sup>th</sup> century, development emerged as a new foundational theme in *Populorum progressio*, celebrated in later documents by John Paul II and Benedict XVI as *Rerum Novarum* had been celebrated by popes

after Leo. Again, we see a development within CST connected with the historical circumstances of the time – the growing awareness of the lack of development in many parts of the world and the possibilities presented by decolonisation. Perhaps *Laudato Si* will become seen as another of these foundational moments, to be returned to and celebrated by subsequent popes.

So the historical development of CST as we have briefly outlined it here may suggest that it confronts the digital age from an interesting vantage point. In one sense, it is challenged by, and perhaps not entirely prepared for, the profound changes that are taking place with the rise of the “digital age”, rooted as it has been in a world formed primarily by industrial technology. And yet, it was born in a period of great upheaval, making it no stranger to tremendous change. In that sense, it has the capacity to deal with the changes of today.

So let us now look at three particularly important aspects of the digital age which could be of importance to CST, using the work of Luciano Floridi, Professor of the Philosophy of Information in Oxford, as our main resource.<sup>2</sup>

The first issue is the fundamental role of information in today’s society. ICTs have been around since the dawn of history, indeed, they may be seen as having permitted that dawn to take place, since writing allowed the recording and transmitting of history itself. Writing is an amazingly powerful and flexible technology which spawned a whole range of others (clay tablet making, then later vellum, paper, pens, printing, not to mention the technology of the alphabet, a fundamental presupposition for the development of modern computer languages) and profoundly changed the way we experience the world. We only need think of the great impact that printing had on human culture when it was developed. Today, ICTs are taking a step further, not only recording and transmitting but also processing information; it is not a surprise therefore, that they are generating what we can call a new “age”. Whereas history begins with a kind of first ICT revolution with the advent of writing, so the processing power of current ICTs is taking us into a new phase of history, what Floridi calls “hyperhistory”, where information is a fundamental resource and our ICTs are integral to our wellbeing, flourishing and development. Whereas in history, records are kept of those who are “important”, in hyperhistory data is created and shared by a much wider range of people -

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<sup>2</sup> In particular, Floridi, Luciano. 2014. *The Fourth Revolution. How the Infosphere is Reshaping Human Reality*. Oxford: Oxford University Press. The later page references in the text are to this book.

we could perhaps say that hyperhistory is history “on steroids” – so much data, so much interaction and connectivity. A hyperhistorical way of living will co-exist with what has gone before, just as prehistorical societies have coexisted with historical ones (and may still exist in some very remote parts of the Amazon). Rather than indicating what life is like in fixed places or periods of time, these words indicate more a way of living (they are more like adverbs, as Floridi says). Nevertheless, just as the industrial age has largely replaced the agricultural system that went before it in much of the world, and which we have inherited and which has deeply influenced our generation, so these new ICTs are likely, as their influence spreads, to bring to the fore a new phase of human existence, whether we call it hyperhistory or something else. We already have young people born after 2000 in many countries (sometimes called “Generation Z”) who only know life with smartphones and social media, and we are concerned about the “digital divide” and discuss whether there is a right to access to the web.

What kind of world is emerging from these changes? This is our second issue. Floridi calls it the “infosphere”, using a word coined in the seventies that plays on the idea of “biosphere”. It is a word with more than one definition and which is in evolution. At a minimum, it would indicate the “informational environment”, all that refers to information, including “properties, processes, interactions and mutual relations” (p. 41), covering information in all its senses, including all that is held “offline”, physically, and in non-digital formats. At a maximum, “it can be interpreted as synonymous with reality, once we interpret the latter informationally”. In reference to this second sense of infosphere, Floridi paraphrases Hegel in saying: “what is real is informational and what is informational is real” (p. 41). Not surprisingly, it is “in this equivalence that lies the source of some of the most profound transformations and challenging problems that we will experience in the near future” (p. 41). So in the second sense, the infosphere is the world understood in terms of information, and in which the difference between offline and online will tend to become less clear so that the two start to interact in our way of understanding the world more and more. We already have Google Maps and Global Positioning Systems that we connect to in order to know where we are, fridges that identify what is in them and remind us when food needs using up, and wearable technology that tells us when to exercise or take medicine. These may sound like trivial things, but they have a great effect on the way people experience the world and think about it.

A third and final issue, the most important, is what is happening to the way we understand the human person in the midst of all these changes. Just as the industrial revolution caused us to start thinking about ourselves and our world more in terms of precision and cause and effect chains, so living in the infosphere will be likely to encourage us to see ourselves as informational beings, or “informational organisms” which Floridi abbreviates to “inforgs”. We should not think about this as we think about a “cyborg”, a kind of synthesis between the human being and technological components (a “bionic” man) but rather as a different way of understanding and developing because we are living in a different environment, one where ICTs are a crucial part, not merely enhancing or even augmenting our lives but providing us with “new spaces” and “gateways” into them. However, these spaces, as highly artificial, are also extremely malleable, and especially open to the purely commercial use of human beings. We may start to lose the real individuality of each person (which is a great achievement of the influence of Christianity on human culture, especially in the West), seeing ourselves, or seeing others, as no more than a “type”, a bundle of characteristics that puts us in a certain category (a type of customer, a type of worker), in a culture where proxies (linked-in profiles or likes) take the place of real things.

What about CST in this digital age, therefore? As Pope Francis says: “We need to develop a new synthesis . . . in fidelity to [our] own identity and the rich deposit of truth which [we have] received from Jesus Christ . . . reflect[ing] on these issues in fruitful dialogue with changing historical situations” (*Laudato Si*, 121). I think in fidelity to the identity of CST there are three main ways in which we need to search for the new synthesis the Pope is calling us to:

1. Engage with the situation that we face, promoting the use of these new means where they help human beings, as in the industrial period.

Information is a new fundamental resource for us. What can we do with this? One area that is interesting is the way that attitudes to private property are influenced by these changes. Digital information and assets need to be “protected” if they are not to be shared, since they are “naturally” non-rivalrous, non-excludable and can be reproduced at practically zero cost; information has many of the aspects of a “public” good. As assets become more and more digital, therefore, people are finding it harder to recognise property rights in them, even if legal systems protecting intellectual property may still make it illegal to copy or use them without permission or payment. Although there may be a problem here of inadequate respect for laws, the main issue is that it is harder to

recognise private property in something that is so easily sharable. On the one hand, private property is a particularly important issue for CST, a key issue for *Rerum Novarum* especially as it is connected with working people having the security to support a family. This document also rightly identified the threat of Communism on this point as the subsequent history of the 20<sup>th</sup> century demonstrated in a terrible way. However, private property has a “social mortgage”, and is ultimately oriented to the universal destination of goods, or to the common good as *Laudato Si* has recently forcefully pointed out (93-95). Indeed, in the society of today the more immediate problems we face, often emphasised by Pope Francis, are the enormous inequalities that lead to the exclusion of the poor from access to the goods they need. The experience of dealing with assets that are so easily shared creates the possibility for the social aspect of private property to be more easily seen, and for new relationships between private property and the shared use of goods to emerge.

Another issue that might follow on here, and which is mentioned in a different way in *Laudato Si* (112), is the promotion of cooperative forms of organisation and business. Coops have been a form of socioeconomic organisation that CST has favoured throughout its history, and today digital systems could favour coops and collaborative forms of working. Yet, as Margaret Heffernan in the FT recently wrote “the so-called sharing economy has not shared anything”.<sup>3</sup> Trebor Scholtz, a professor at the New School in New York, in his 2016 book entitled *Uberworked and Underpaid* provides examples of taxi cooperatives in Europe and the US that have designed their own apps to provide work for the drivers who own the coop. In a world where the big name among such services is Uber, which has been fighting court cases around the world to argue that its drivers are not its employees, these examples are particularly important and worthy of our interest. A few days from now, Twitter shareholders will vote on whether to transform the company into a coop owned by its users, and even if it does not seem likely that the motion will pass, the fact that it is on the agenda of the annual general meeting is significant.

A final issue on this point would be the use of digital services to mitigate climate change. This is a tricky point because these services themselves create emissions which are already more than those of the aviation industry and are set to increase. However, the Climate Change group’s report “Smart 2020” indicates that by 2020, if used properly (a “big if” of course), ICTs could reduce emissions many times more than they produce. As the Climate Change group says, the information that ICTs

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<sup>3</sup> [www.ft.com/content/beb85bdc-1f8e-11e7-b7d3-163f5a7f229c?segmentId=7d033110-c776-45bf-e9f2-7c3a03d2dd26](http://www.ft.com/content/beb85bdc-1f8e-11e7-b7d3-163f5a7f229c?segmentId=7d033110-c776-45bf-e9f2-7c3a03d2dd26)

can give us “will make climate change visible. It will help us monitor our impacts and emissions. It will help us optimize systems in all sectors for energy and resource efficiency”.

2. Resist what is evil, just as CST has done in the industrial age. The fundamental issues here are very much what they have always been: upholding the dignity of the person in the face of new challenges to that dignity coming from the way our society is changing, or the way the infosphere is developing. *Laudato si* in its section on the technocratic mindset would be a case in point (106-114); indeed, it specifically refers to “resistance to the technocratic paradigm” that is so often dominant (111). The same drives towards productivity and accumulation of wealth that drove the industrial age are still very present today, and in which technology becomes a tool in the instrumentalisation of every other good.

In the face of the developments of the new infosphere we need to protect the idea of the human person as a unique, embodied individual. Here the results of neuroscience and genetics are an ally, reinforcing what CST has to say. These sciences, for instance, help us to understand more about the physical and neurological basis of moral behaviour. Results from them support an ethics of virtue rather than other ethical alternatives (Kantian, say), since they indicate that we are born with innate structures or “moral modules” that are malleable, that is, can be formed by the person themselves and the circumstances around them.

3. Be present in society, as interest in religion is rising in areas where it was not present even ten years ago and the voice from CST is needed. The background to this new interest includes research like that of the Pew Research Trust in 2012 that showed that 84% of the global population identify with a religious group. The business world, which has not always had much interest in what CST had to say, is gradually waking up to this. Business research centres are producing studies on issues like faith and leadership.<sup>4</sup> Blueprint for Better Business, a movement that has attracted significant number of large corporations in the UK, is quite open about its starting point in CST, which it is gradually widening to incorporate an interreligious perspective.<sup>5</sup>

CST may appear very challenged by the changes that the digital age is ushering in, but it contains within it the capacity to deal with them. Indeed, many of the articles today on AI and robots are

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<sup>4</sup> <https://www.lead.ngo/ideas/research-series/religion-leadership.html>

<sup>5</sup> <http://www.blueprintforbusiness.org/>

concerned just as much about the ethics, meaning and purpose of these technologies as they are with their technical prowess. Our industrial age has produced technologists who are capable of producing many technical resources, but it has not produced a similar level of ethical reflection. There are gaps in our systems of education and in our public discourse and people are looking for bodies of thought and voices that can fill them. Although the challenges to CST are great, we may find that it is in the digital age that it really comes into its own. The need at this time for what it has to offer may mean that its impact turns out to be just as great, if not greater, in future than it has been up to now.