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INTERVIEW



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Colloquy with Luciano Floridi on the anthropological effects of the digital revolution

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ABSTRACT

In this interview, philosopher Luciano Floridi explains the effects that, in his opinion, the digital revolution is having on our understanding of human nature. Among other things, he proposes that digitalization is contributing to the development of an anthropology in which man is not the center of reality, but just another node in an unlimited set of informational nodes. This revolution has effects also on the way we have access to reality, through the design of patterns that allow us to order the data we obtain from it. Such vision gives rise to an ethics whose perspective is patient-oriented, that is, which places the needs and expectations of the other first. The interview concludes with some practical proposals for some of the challenges posed by technology companies to today's society.

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Introduction

Luciano Floridi (b. Rome, 1964) is Professor of Philosophy and Ethics of Information at the University of Oxford, and Director of the Digital Ethics Lab of the Oxford Internet Institute. Within the same university, he is Research Associate and Fellow in Information Policy of the Department of Computer Science. He is also a member of the Ethics Advisory Group of the European Data Protection Supervisor (EDPS), focused on the ethical dimensions of data protection, and a member of the High-Level Expert Group on Artificial Intelligence, both at the service of the European Union.

His research is focused mainly on Information and Computer Ethics, Philosophy of Information, and Philosophy of Technology. He has also developed research in the fields of Epistemology, Philosophy of Logic, and the History and Philosophy of Skepticism. Some of his most recent books are *The Fourth Revolution – How the Infosphere is Reshaping Human Reality* (2014); *The Ethics of Information* (2013); *The Philosophy of Information* (2011); and *Information – A Very Short Introduction* (2010).

During the Covid-19 pandemic period, we had an interesting meeting online with Professor Floridi.

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Digital revolution

You argue that we are witnessing a cultural revolution. You've also proposed some neologisms ("Hyperhistory", "Onlife", "Digital Sovereignty") and made some others viral ("Infosphere", "Fourth revolution"), as if the change was so profound that there were no words to define and reflect on the future. What are the main anthropological and epistemological consequences of this revolution?

Maybe one clarification about the need of new words, and then I will try to be brief about the anthropological and epistemological consequences. The need for new words is due to the fact that we are facing a new phenomenon. Sometimes philosophy needs to have a new vocabulary, but we need to be careful, because otherwise people get the impression that is all about words and not about concepts. So, in a way it doesn't matter what new keywords and new fancy words we use, as long as we grasp the consequences of the concepts.

Now I come to the question: what are the profound consequences that we are facing? And, in this case, too, I would like to be moderately innovative. There are people who say: "Oh, nothing new; human nature never changes, the human predicament never changes ... It's just another technology, we have seen this before, etc.". Well, yes and no. It is true that we are born, we live and we will die. In that sense, history never changes. But it would be silly to say that nothing has changed since the time of Socrates onwards, that we live the same life, we have the same expectations, the same values. That's not true. History has changed dramatically. But on the other hand, as we move through this history-book we add new chapters. So that is what I would like to answer to people who say: "Oh it is a complete revolution! Never done before! You can't compare it to anything else ...". Well, that's not true. We are still human beings, we come from a past, we walk towards a future. We can't deny that the digital revolution is based on the mass media revolution or that the computer comes from electricity, and the ASCII code is a grand grandson of the alphabet, etc. There is a good balance between revolution and continuity, and that is part of what I am trying to do in my work.

Now, in terms of consequences therefore, there are anthropological and, as you mention, epistemological consequences. If I were to choose just one consequence in each category that in my view is most important, the anthropological one would be that we understand our human nature slightly differently than we have ever understood it before, until recently. Not because we are denying the past, but because we are adding to the past one more dimension. In the past, until recently, we have considered ourselves for example as mechanisms, from Descartes onwards. We couldn't explain how the soul, the mind, the spirit was living in this mechanism. Then we have seen ourselves as biological entities (I remember myself as a kid being told: "We are mostly water. Basically, we are like 70% water plus a little bit of something"). Today it makes a lot of sense to see ourselves as *informational organisms* (Floridi 2014, 98): organisms that live, suffer, flourish, exchange information. What we absorb from our environment, what we put into our environment, what we exchange in our environment ... gossip, caresses – this also is information – kisses and shouts, bad words and graffiti,

the mass media and WhatsApp messages ... all that information is what makes us healthy or sick, happy or unhappy.

I am tired of hearing people telling at me: “Oh, do you think we are *just* informational beings?” No! Of course not! But today if I were to say which is the major consequence of the digital revolution is that we now see ourselves from this angle, one dimension that we haven’t stressed too much in the past. And so, we are still water, we are still mechanisms, we are still minds in search of meaning and so on but we are also today, and perhaps more interestingly, informational organisms. Therefore, in terms of anthropology the keyword for this answer is “*Inforg*” [Information organism].

And in terms of epistemology?

In terms of epistemology, the keyword is “design”. The history of Western epistemology is also a history of the endless debate between invention and discovery. Is knowledge something that we find out there in the world? Or is it my invention, my creation, my creativity? In a way, I think design cuts across this debate from a different angle. The analogy that I use sometimes is cooking, that shows where I come from ... [*Editor’s note: that is, Italy*]. When cooking, the ingredients are what they are: to acknowledge that is to be realistic. And if you have eggs and bacon in the fridge and only eggs and bacon, well, I don’t think we’re going to be able to make a *risotto*. The more ingredients you have, the more variety of things you can cook. And the world gives us an enormous amount of ingredients which are totally realistic. These are the constraints and affordances or the transcendental conditions of our knowledge, to put it in Kantian terms (Kant 2008, 191-97), but then it’s up to us to cook them properly, to put them in the right way. When I finally have the dish in front of me, that is hugely realistic. However, it’s not a representation of the ingredients, but a transformation of the ingredients into something else.

So that’s what to me is the epistemological consequence of the digital revolution: the ability to see design as a major force, in the way in which we transform data in patterns to understand the world which surrounds us all the time.

Human nature and the digital world

You are talking about an aspect of human nature, right? Do you consider that it is broader than that?

Of course! Infinitely broader and I think that we will discover more of this endless sort of space that is human nature in the future. I mean, the story doesn’t stop here. To me it’s more like when you read a classic and you can go back and read it again and you find more and more in it, but it’s still the same text. It’s not that someone has changed the “*Odyssey*”. But when you try to read it when you are in your fifties, it’s a different story from when you were fifteen. That’s human nature: the more we progress in human history, the more we understand ourselves in a multitude of ways.

What I’m suggesting is that every age has a privileged perspective on human nature and, today, looking at ourselves from an informational perspective makes a lot of sense. It’s a good way of doing it – it’s not the only way and it’s not the ultimate way, to say

so would be silly – but it is an important one for our own age. Today, it “clicks” with our own “Zeitgeist”, you may say.

With what you call the fourth revolution¹, which is the digital revolution, you underline that relationships indeed give substance to things. For example, my relationship with my father reveals my most profound identity. But now, in the digital culture, relationships are becoming more prominent in the sense that we are open to many more relationships. Can we identify this phenomenon as the beginning of a new humanism?

It could be. I think that it is important to understand what this metaphysics of relations implies. It tries to humble the self-sufficiency of substance. It says to the substance, for example to an individual such as myself or the sofa on which I’m sitting: “You would not exist if it weren’t for the relationships that are enabling you to be, to exist”.

Now, in terms of more sort of “inclusive metaphysics”, just to refer to some common language here, the point that people don’t quite understand when they say: “Without a necessary Being, a fully contingent world – so the argument goes – could not exist”. Something that is a hundred percent, entirely, strictly and *only* contingent. Now, I’m not saying that is a good argument, but I’m saying that is the argument that shows the relationship between necessary and contingent. The node exists without any doubt, but for its own existence it depends on all the links that make the node what it is. Sometimes I speak about roundabouts and roads. It’s not that the roundabouts don’t exist, you don’t go around driving as if they didn’t, but without roads there are no roundabouts. It’s not that first come the roundabouts and then we link them with roads ... I think that this shift in perspective may lead to what you define as a “New Humanism”. I’m still struggling to find the right word here. I’m just concerned that “humanism” might bring back with it some anthropocentric view, that I like to resist. So, if we could have a non-anthropocentric humanism that would be it: a humanism that puts Humanity or human exceptionalism not at the centre but at the periphery, that acts from the perspective of its ability to be of service to the Universe, not its ability to put itself at the center of the Universe.

There is a way of opening the whole dialogue with the other, with diversity, with the rest of the world, with the Ultimate Diversity, that could be divinity. But if we put humanism back into its own old box – which is anthropocentric – then we have all these things: Nature for us, God for us (for those who believe in God), the others for us, past and present and future for us ... And there is a consumeristic – culturally speaking – culture linked to this sort of anthropocentrism that I like to resist as much as possible.

Anthroposophic versus eccentric humanism

The anthropocentric humanism that you want to overcome would be a humanism without an openness to transcendence? An egoistic humanism in which man is at the center without a horizon?

Exactly. I’m no longer a believer. I’m no longer Catholic, I’m an agnostic, although I consider my whole philosophy, all the work I’ve ever done as an attempt to regain faith. So, I’m trying to go back to Ithaca², if you see what I mean. I’m from there and

I'm trying to go back, and so far I'm so lost that I'm not sure I will ever be able to go back, but I'm the most religiously oriented agnostic you can possibly meet, so to speak.

So, I'm aware of, at least, the fundamental importance of keeping the horizon of transcendence as a possibility open. On that, I have no doubts. That's why I'm an agnostic, otherwise I would be an atheist. When people ask me, I say I do not believe in the non-existence of God – the double negative is fundamental – but I am no longer able – although I hope to be able again one day – to believe in the existence of God. And so, in that journey through the desert, so to speak, in very serious terms, I want to keep the desert open. I want to make sure that there's a journey ahead of me. And I think that is not just a personal note. Speaking in philosophical terms, a humanity that does not keep open the possibility of not being the only thing that matters in the universe is a humanity that is lost. That seems to me the ultimate sin, in a way: the inability to consider oneself not at the center of everything.

The eccentric anthropology you propose is very interesting. At the same time, it raises the question of dignity. In some way, we tend to place ourselves in the middle, to ask ourselves if we are more important than other things in the universe. Am I a "roundabout" more important than the other roundabouts in the universe that I'm connected with? What makes me unique?

Again, this is a very good point, an excellent point, because in my small world, when people read my stuff sometimes there's a misunderstanding. I still remember a conference when people said, a long, long time ago, in the late 90's: "Oh, you think people are just numbers!" Of course not! That's insane. I believe in human exceptionalism one hundred percent. It's what the exceptionalism consists in that I find different. So, as you said, humanity is a very, very, very special node. Is a node like no other? Yes. Why? This is the difference: I don't put us at the top of the game, at the center of the universe or, as we said, as the people whose party is being organized by the universe. Our special ability is that we are the ones who can organize the party.

To me, the special nature of our condition, of our predicament, is something that we are missing, an emptiness that needs to be filled. Not something that we are more, but something that we are less. Something that we don't have – let's say epistemologically, as you were saying before, or anthropologically. We are unable to live a hundred percent, constantly here and now. My dog will never be able to leave the present, will never worry about pension or what would be or what was there and is no longer there, what is here now but will not be here tomorrow, what could have been ...

Human exceptionalism consists in what we are not, and in what we can do to take care of the universe. Now it's also what makes us awful, terrible. I mean, what we can do to each other no other type of animal can do. So, the two extremes – the ability of the ultimate gesture of love or the ultimate form of violence – that is what makes us special: the ability to be so diverse from normality. As you can tell, the point doesn't become we are better, more, extra ... No: we are less, we are a broken mechanism that extraordinarily succeeded.

Sometimes I speak about humanity as a "beautiful glitch". We shouldn't be here, in a way. Whichever way you look at the universe, the universe is too extraordinary, and we are too odd, too strange, not to think that is either a lottery ticket or a plan. I don't

see any other alternative. Now, for some people that is too strange to be true, so there is a plan. For some other people, that's really odd and that's why you need millions of years, and evolution etc. But either way, this broken mechanism, this "beautiful glitch", is beautiful not because it is more, but because it has something that is missing. This is a typical – and also a very renaissance way – of looking at the yearning, the desire, the awareness of absence, like a hole in our souls which we cannot bear.

Breaking away, as you proposed, from the Aristotelian ontology (primacy of things) and the Newtonian (time and space as containers) is not easy because it implies changing our way of knowing the world and constructing our own identity. In your book "The Logic of Information" you define yourself as a constructivist-realist. But realism implies that we try to know something that is outside of us, let's say "an objective reality", where a human being uses reason to know something, where there is a clear difference between the observer and the thing observed ... Constructivism, instead, implies that there is not such a difference but rather an interrelation. Knowledge would be the result of a process, an interaction between a subjective experience and an objective entity. The digital environment is a "man-made" environment, and if you are talking about constructivism, some of the main detractors like von Hayek (Bassan and Febbrajo 1970) or Boghossian (2007) say that constructivism ends in relativism. You don't want to put man at the center of a closed universe, but "building reality" (as a result of a process) in some way puts the man again at the center ...

I understand the problem and I think it's a real problem. I think it is also a more general problem in philosophy, where we constantly struggle to avoid the dichotomy. So we say either something is real, and therefore it has to be a substance, or if there is no substance then that thing is not real. I reject that kind of dichotomy. I don't see how we can understand the world properly these days –also in line with our best scientific knowledge – and still get stuck in either/or reasonings. That's the reason for my attempt to walk a middle way between the constructivist and relativistic views.

I don't see why we cannot use the same sort of qualifications for relations, processes, and interactions. Having said all this, because I am much more of a Kantian, I do not have – in my own sort of philosophical framework – the ability to speak about things in themselves. So, the root here is to understand what sort of ontological commitment makes sense from an epistemological view of being. And from that perspective, which is something I developed much more in the book *The Logic of Information*, the perspective becomes one of a commitment to the reality of processes and relations, on par – at the same level as – the "relata"³. So, it's not like first come the points and then the relations or first the relations and then the points, but points and relations coexist or do not exist at the same time, and *this* is how we can conceptualize reality better, but not what reality is in itself, which is a meaningless assertion.

Although in some ways the digital is created by man. I see your point, but in some ways all the digital sphere – which is real, although some people say is not – is created by man. I see difficulties in knowing what the boundary is between subjectivity and the reality that we need to know ...

I agree with you that if we just speak about digital technologies – we could be speaking also about analog technologies, like cars and so on – they are real, but we’re building them. They don’t exist if we don’t build them. And I take the same view about the web or communications online. They are as real as a car, as far as I’m concerned in terms of ontology, but of course it depends entirely on our capacity to build them, design them, produce them and so on. Deep down, for example, is the world continuous or discrete? Well, I reject that kind of question as being nonsensical. I mean, that really depends on what kind of epistemology one has. In that sense, I’m much more of a Kantian, although Kant takes the *noumenon* as unknowable; I take it as inexhaustible, which is very different. Remember the cooking analogy? So, here the analogy is that for Kant, you cannot open the fridge of reality, only know what is cooked. For me, you can open the fridge but it has endless ingredients and the point is to understand the dish that comes out of them. In both metaphors, the result is the same: you can’t tell from the dish what the ingredients are in themselves, but the dish (information) is real and the ingredients are the constraints and affordances (the data) and whether they are continuous or discrete, I think that that pretty much depends on the epistemology. I mean, physics develops pretty much the same view: particles, waves ... it depends on the experiment you’re running. The same thing or the same stuff out there, if it is a particle or a wave, it depends on the experiment you run.

Need for ethics

Let’s talk about ethics. While sharing some anthropological ideas proposed in your writings, it seems necessary to propose the ethics of the digital atmosphere again. According to you, the role of ethics is no longer “having a lighthouse to simply indicate when not to do something”, but it is a proactive and enabling task that helps you understand what you can do and if it is good to do it. Unfortunately, it is a difficult and slow task, and technology evolves faster and more powerfully. What place do ethics have in the Infosphere?

Forgive me if I am wrong, but I have the impression that ethics has opened up a very significant dimension in the last century, when – possibly for historical reasons – it has become also a focus on the perspective of the receiver of the action. Let me be less obscure. If you take applied ethics, fields like medical ethics, bioethics, environmental ethics, business ethics or corporate ethics and now digital ethics, they have something in common in my view, which is asking the ethical questions from the perspective of *the patient*, that is, the receiver rather than the source, the agent, of the action. It could be actually the medical patient, but it could be the environment, the customer, the Infosphere or whoever is on the receiving end. So, instead of constantly asking who should I be? What should I do? Why should I do it? etc., it’s all about what is good for that, what is asking me to do, what kind of signal do I receive ... So, in a simple sort of “sender-message-receiver” model of an ethical sort of discussion, it is not so much about an ethics of the sender, but it is an ethics of the receiver.

Now, if you shift that perspective – and remember what I said at the beginning about not dropping the past but adding to the past – then we can add this dimension of *patient-oriented perspective*, which is a step forward. Imagine that of the three of us,

each of us, puts the others at the center, then who is the patient? Who is the agent here? And so, to me what becomes fundamental is to understand that what matters among the three of us is not *me first*, or *you first*, but it's *our relationship first*.

You say that it is important to think about the consequences of actions ...

If I say that, that sounds very much like consequentialism or utilitarianism, and it's not exactly like that. Because the consequence of the action is still a question asked by the agent. "I'm doing something, what will the consequences be?" You see whether that's good for the whole community or not. So not so much: "Is this action that I'm going to do good for the majority of people or increasing the welfare, etc.?", but rather: "What does the world need? What is required of me?" It's very much an ethics of care.

But it requires a judgement, because sometimes those requests could be wrong.

Yes, could be wrong, could be obscure, could be unclear. That is something that I'm aware of. It requires sometimes a lot of epistemology. The good news – and it's why we need ethics in its history – is that part of the history of ethics is exactly that epistemology. If you look at twenty-five centuries of western philosophy, it is twenty-five centuries of good solid epistemology about what the world needs, what the other is asking, how that voice that you almost cannot hear, that is sometimes obscure or feeble, becomes crystal clear and loud if you follow the thread in the writings of the main philosophers, from Plato to Spinoza ... all the way thorough Augustine, Thomas, etc., all the way here. So, there is a wealth of epistemological understanding of ethics that comes from the tradition that we can leverage in order to understand how we are interpreting their message.

There is a beautiful sentence of Shakespeare in *The Tempest*, in which Miranda, the girl, is looking at the shipwreck and she says: "Oh, I have suffered with those that I saw suffer" (*Tempest*, I.ii). That is the kind of ethics that I think we need today, because it's an ethics of care. It's also an ethics of being not self-centered: it's the ethics of the parents towards their children; or even of a good business person towards the customer; or the friend towards another friend ... You don't put yourself on the center. But you're right, it requires a huge level of understanding and that's why it's pretty heavy going on the epistemological side.

Innovation needs ethics to give directions to progress. It seems that we are basing the mature information society⁴ on business as mere transactions, on a logic that does not take into account the human dimension of the economy.... How do we make ethics attractive and convenient in the long run?

First of all, we need to stop thinking and we need to stop telling people that ethics is useful. Ethics is not useful. Sometimes it's useless. You do the right thing no matter what. Not because it's useful. Because if it were useful ... To do the right thing is to be honest, to pay your taxes, to help someone, to give more, to pay attention ... and so often it's not convenient.

The second point is: the "universalizable" nature of the good action is what makes it useful but it's not – it seems to me – a good reason for doing the right thing. It may be

a good reason for not doing the wrong thing, but this is different. The difficulty in these days is that we live in a very utilitarian context and very selfish, egocentric, profit-oriented, etc. It is not going to be helpful trying to tell people: “Look, you should be doing this even if it’s not going to be convenient for you, even if it doesn’t add something to your profit, even if it is not advantageous ...” I think all the things we have said so far could and should help, because if you have a view of yourself as not being at the center of the universe, then it becomes a little bit easier to think in terms of: “What can I do to help others? To care for them?”, instead of saying: “What’s in it for me?”

So ultimately, what I’m talking about is a change of expectations and priorities, but it’s a cultural thing that happens over a long time. Deep down, for intellectual people like us, what we can do is to work on the bedrock of the river, on the foundations, start changing the sensitivity culturally speaking, the *Ur-philosophie* so to speak, and then the whole thing starts changing. One day we will think that spreading fake news on the web is like peeing in a corner in a park. You don’t do it! It comes with a normal culture. I hope that is where we are: the journey is before us.

A polluted Infosphere

The Infosphere, like the Biosphere, is already polluted (fake news, information overload, opinion bubble...). Is it our fault or should we blame the system that we created (algorithms, artificial intelligence)? What do you suggest we could do in order to promote a “digital environmentalism” in the Infosphere?

Ultimately, it is our fault. There’s no one else we can blame for our own predicament. But it is true that if technology makes something very easy.... Whoever originally invented the car didn’t mean to pollute the environment but we did pollute it; and whoever invented plastic didn’t mean to fill the oceans with plastic but we did that too. So, I think there’s a bit of cause and effect, with consequences.

Ultimately, I reject the view that technology in itself has responsibility. It’s us: we build it, we decided, it happens through different generations, different people, different circumstances... and, at some point we realize we have made a big mistake. It’s like what we have today in terms of biosphere. We’re destroying this planet, as we speak. We have a generation or two to save it, not much. And we’re doing the same with the Infosphere? Congratulations! I mean: well done humanity! Can we still repair it? Yes. We can still fix it. How? By changing those expectations and sensitivities on the one hand; but also changing our business models in a practical way.

Imagine that our business models were such that doing the right thing was financially convenient. Today doing the right thing is financially inconvenient, it’s a loss. So, when you speak for example about green policies, most of the companies I speak to they see it as something good to do. Unfortunately, it’s not good business. They say: “Oh, yeah we’d have to spend...” The moment we would start transforming that into a good business model – where you make money by doing the right thing – then we would have found how to square the circle. When I speak to politicians and managers, my discussion is always about: “What rules could transform our behavior in such a

way that it becomes useful?” Remember? The ethical thing. At the moment, it isn’t convenient to do the ethical thing.

On the fake news issue in particular, the business model we have is based on advertisement. Advertisement wants clicks. Clicks require big news. Big news requires fake news... There is no way out. If we don’t like the outcome, we need to change the source. You don’t change the world by just changing the consequences. You need to change the causes, but no one at the moment wants to change the business model in the background. I suggested to the people of the European Union in Brussels: “What about, for example, putting a cap on how much companies can spend on advertisement?” Or imagine banning advertisement all together. No more advertisement. All of a sudden, we have to pay for the services, it would mean that we have customers not users. Customers have rights. So, I’m a strong believer – as you can tell – in designing rules that make things go in the right way. Until you change that, what I call “infraethics” (the infrastructure that make ethics more likely), until then it will always become an effort, although it’s a good effort and we should still do it.

There is an entire future to envisage. You claim that we are in the ‘era of design’. Could you explain that concept?

Innovation is like a stool on three legs: you do innovation by inventing something, discovering something or designing something. In fact, it is always the three together. However, depending on the age, one is always more important than the other two. That’s why we speak of the *age of discoveries*, the *age of inventions* and now we should be speaking of our age as the *age of design*. Why? Because digital technology has this ability to attach and detach, or unglue and glue together, bits of reality that we thought either couldn’t be separated or couldn’t be put together.

A couple of examples, and then we move forward. Take, for example, law and territoriality. We have lived for centuries with law and territory glued together as a single block. The digital has detached them completely. On the internet, you can’t simply say: “My place, my rules”, because there is no such thing as “my cyberspace”. That’s the typical case of detaching-gluing together. It also happens with personal identity. My grandmother would have found it really funny to be told that her identity was her data. She would not have understood it. While today, European legislation describes us as “data subjects”. They think of our identity as made of our information as glued together. So just two cases, but there are many more like this, of gluing and ungluing. Which means that we have many more affordances and less constraints, which means that we have many more opportunities to design the world according to some plans, some blueprint. That’s why today design is so much more significant than either inventions or discoveries.

To me design is the ability to solve a problem by taking advantage of the constraints – what you cannot do – and the affordances – what you can do more easily – to solve a problem in view of a particular goal. When you design the *Moka* (the “caffettiera”, in Italian, the coffee maker) is because you want to make a coffee. You have constraints: it has to cost little, be easy to build, easy to use, etc. You have some affordances, basically, putting it on the fire, producing steam, and then it makes the coffee. That’s the design (and it’s a beautiful design and it’s unique! From that time onwards that’s how

you design a *Moka*). Constraints, affordances, problem-solving in view of a particular goal, successfully put together: that to me is design. Today that's what we do most of the time. That's why, for example, you read on the iPhone: "Made in China. Designed in California". That's what matters, that's why we think of this thing as a Californian thing, although it has been made in China. It doesn't matter where you make it; it's where you design it that makes the difference.

What do you mean by pro-ethical design?

It is a crucial concept, because I do not like very much the expression ethics *by design*. I know it's very popular, but I think is a dangerous game. Ethics by design means that someone knows exactly what's right and wrong, and puts it in the product and doesn't allow the user or the consumer to change it. Instead, pro-ethical design is a bit gentler than that. Let me give you an example: ethics by design is the ethics that assumes, for example, that, if you want to renew your driving license, then I assume that you will be an organ donor by default. You can go online, you can unclick that option, but the assumption of the ethics by design is that you're going to be an organ donor – I like it, I am an organ donor. However, let's assume that for religious reasons or for cultural reasons maybe I don't want to be organ donor. Why should I be put in those circumstances? What would be a pro-ethical design here? For example, you cannot renew your driving license unless you tell me whether you want to be an organ donor or not. It doesn't matter which you choose, and I don't force one or the other of the two options, but I force you to take a decision. I will not give you a driving license unless you tell me.

A lot of unethical behavior, seems to me, is by omission. Many could think: "I could have taken a decision, but it was an effort ... maybe I will do it tomorrow". Well, in those cases, the authorities should not give them a driving license unless they give an answer. The two options would arrive to the same end. If you say "yes", you get it [your driver license]; you say "no", you get it. But you have to tell me. Whereas the ethics by design will force you initially to be an organ donor, you can always say "no", but you know the default, etc. I find nudging⁵ dangerous because maybe with the organ donor we all agree, but what if that is about very controversial things like abortion or positive discrimination? – no discrimination but positive discrimination. For example: by default, people of a certain race will have more places at the university in order to rebalance the opportunities. ... When ethics becomes controversial, I like to force people to make up their minds. I don't want them to be forced, to make up their minds in a particular way unless they unclick. I hope the distinction is clear.

It's what you were saying about the dialogue from the ethical aspect. Where you were saying that it has to be focused on the person who is the end of that action ...

Precisely, that's exactly the point, yes. I think that in a pro-ethical design there is also a bit of emphasis on human good will, on human understanding. Another example is the lottery ticket. We should print something on it like: "Look, chances of you winning anything is one in a billion. Are you sure you want to spend these ten pounds?" "Yes ..." "Okay, fine" ... Because the freedom of the individual must

be respected, but I would like to see that freedom exercised critically whereas a lot of decision are taken without thinking, or are not taken at all, or postponed when they should be taken.

Privacy

Privacy is one of the most important problems of the Infosphere: we want to continue to be in control of our data. You quoted Virginia Woolf: "We have a private life and we consider it by far the most precious of our goods"; in contrast, Mark Zuckerberg said: "People have really gotten comfortable not only sharing more information and different kinds, but more openly and with more people" (Cavoukian 2010). How is the Fourth Revolution changing the care of our privacy? How can we understand it in depth in the context of the eccentric anthropology that you proposed?

Remember what we said before, that through history humanity understands itself increasingly in a variety of ways, so it adds more dimensions. It's like these 3 D-objects in geometry with many, many facets ... The digital revolution, the information revolution, has arrived to the conclusion that we are so much also informational organisms, and, as in other occasions, we normally discover these things by painful experiences. We are so much also informational organisms but that also implies therefore privacy. I could look at myself and say: "Look, I am an endless number of things, including an object made of information, but anyone who has access to the information has access to me, to myself, to my own essence. So, it is not an accident that having a more informational anthropology comes hand-in-hand with having the problem of privacy. Privacy just shows how much we understand ourselves in terms of information and therefore how much we care about ourselves.

What you say about "object of information" it is in a broad sense, because men and women are not just a bunch of data ...

Exactly, yes.

Otherwise, it could sound very materialistic in some ways ...

I completely agree. To me it's not even data, it's information in a very philosophical sense All my memories, all my tastes, all my experiences, all my abilities, the language I speak, the knowledge I have, the feelings I felt, the emotions That is all information to me. Think about anyone who has access to it, to all that related to an individual, what I also call semantic capital Well, there's a bit of that that I can share with anyone, but there's a lot of that that is only mine and I would like to be in control of it.

If you remember, there's a beautiful episode in the Odyssey when Ulysses is talking to Penelope after not seeing each other for many years (Cfr. *Odyssey* 23, 198–202). Penelope is not quite sure that he is really Ulysses, her husband, and so she tests him and she asks the servants in front of him to move the bed to make him rest. But he [Ulysses] replies that the bed cannot be moved because he built it and he built it from a tree, it remained attached to the tree, rooted to the floor ... Then she knows he is

Ulysses because he's the only one who has that piece of information. That is – to quote Shakespeare – “a marriage of true minds” (*Sonnet CXVI*) . That's what I mean. And if Zuckerberg had been around there! ... This information is so intimate to that couple that it makes her say: “I recognize you for who you are because I share with you that intimate, ultimate piece of information that makes you who you are, and me who I am with respect to you, your spouse” ... That so fundamentally, intrinsically, defines them that I want to see that protected. That's what I mean by privacy, that is the real thing.

But people think in terms more of where did I go for dinner, what did I have for lunch, what did I buy on Amazon ... Well, that information can be shared, I mean, if it doesn't define me. If anyone finds out that I just bought a pair of shoes on Amazon, honestly, I don't think that is a privacy thing, but if anyone were to find out the ultimate, intimate things that I share only with my parents or my wife, for example, well, then I would be really upset, I would like to see that information removed, I don't want to see that happening ...

Fear of big data

Sometimes what people fear is that technology is collecting so much data about us and that it has the power to combine the data to make a quite complete picture of our very selves. In some way, we are losing control of our privacy little by little and people don't know that ... Do you think that that's fair?

I think there is a real risk. There's a quite easygoing aspect, because you don't see it immediately. You don't see that by giving that little piece of information today and that other little piece tomorrow you are eroding your identity. But here there are two fundamental points for our ethical discourse in the twenty-first century that have become crucial: first, autonomy, that is, how much in control I will be of my own informational essence – who I am, basically, my identity understood informationally; and second, manipulation, which is the counterpart: those who have a lot of data about me could actually leverage that to make me do things that maybe I didn't want to do ...

I normally use a simple benevolent and old example of Amazon. When Amazon used to sell only books they would say: “Since you read this book, maybe you would like this other book and maybe another book”. Maybe I do, and ten years later, all of a sudden, you realize that you have read all those books, just following Amazon's advice. How much in charge was I? The books, in some ways, define who I am, they are part of the semantic capital that I have acquired. So, at some point we need to be really careful about autonomy, manipulation and their effect in shaping the individual. But although I don't see this as a conspiracy theory, I'm worried about all those little erosions of privacy and autonomy here and there, and more and more. That's why the sooner we reform, shall we say Facebook or similar platforms, the better.

One way of limiting or protecting the individual is through law. You are a member of the European Ethics Advisory Group. Are you satisfied with the new General Data Protection Regulation? In your opinion, what other regulation could be necessary? Which are the next steps now in this sense?

I think the GDPR (General Data Protection Regulation) does a good job, it's a very good piece of legislation. It is already a little bit old, but it is good because it was designed after a careful discussion of years and years. It's still an amazingly good piece of legislation. Given that it's still working fine, it could be extended to cover even Artificial Intelligence, which was not a pressing issue when the legislators were designing the law. Of course, like any legislation, it needs revision and updating. I suppose we'll see a GDPR 2.0 soon, especially because all the smart technology and AI have made a big difference.

The players of the digital game

Society's dependency on Apple and Google has become an issue. It seems like tech companies have succeeded in seeing a future that states cannot foresee, because states must manage the here and now. At the same time, certain multinationals are now too powerful to be addressed by individual countries. You have proposed greater control by operating four levers: legislation, autoregulation of sectors, social pressure of public opinion and market rules, in this case above all with competition. Unfortunately, some operators in certain sectors seem to have eliminated the free market... They escape our control and the control of the estate. What do you think?

Well that is definitely one of the problems. Normally, when we look at these big companies, Facebook, Apple, Microsoft, Google and if you want we could include Amazon – I mean, the list is long but not too long – when we look at them we could consider three areas with problems of privacy. As we said before, those problems are: how they use the data; taxation – how they give back to society which is a big problem because they don't; and lack of competition. Most of the problems we have with these companies are within this triangle.

But you asked me about competition. It is a big issue. I have the impression that the political thinking of the twentieth century, especially the postwar liberal thinking, was very optimistic about the future of democracy. It was based on the identity between voter and consumer. The essential idea behind the system was that voting and consuming would keep democracy and business honest because of the variety of real options.... Well that has become a problem today where neither politics nor business companies offer real alternatives. It's almost like the difference between having options on the menu of a single restaurant or having different restaurants. But today in politics we have only one restaurant, which is a pretty bad one.

The same with business. Once you eliminate competition, either in terms of political voting or customer purchasing power, then you are undermining seventy years of political thinking, from the Second World War onwards, because that was the foundation: civil society, people, citizens, consumers and voters will all keep politics and business honest by having real, alternative choices or, even better, helping to co-design them. That's why we should reintroduce competition as soon as possible both in politics and in business, that's why people start to think to break down these companies. I think it's a good idea.

Let me give you one example: Google tried to compete with Facebook in terms of a social platform. It failed, it closed down Google+. Google could not compete with

Facebook. Microsoft tried to compete with Google in terms of being a search engine but failed completely, and so on. So not even among themselves can these giants actually compete with others! What is happening now is that they are in a sort of *pax digitalis*, cutting the cake between them. Amazon does retail, Apple does hardware or mobile phone, Facebook is social, Google does YouTube and search engine, Microsoft is going to be office software and cloud computing ... The areas where they haven't yet come to some kind of an "agreement" are the areas where you see still some competition, for example, Netflix, Apple, Walt Disney in online entertainment ... but if one of them wins, that's it. If we want to go back to some kind of liberal competitive environment, where competition is a good thing, we need to break that vicious circle ... So, for example, Google should have to decide between being either a search engine or a video platform (Youtube) but not both together, Facebook between being a social platform or a chat service (Whatsapp and Instagram) but not both together, Amazon between selling either hardware or cloud services but not both ...

But who could put those limits on these companies? States?

Yes, the governments. It's the only way. The biggest difference between these two forms of power – business and politics – is that politics has law, business doesn't. That's the only difference to me. Governments can issue laws, basically they can change the rules of the game. Business is a player and cannot change the rules of the game, though it tries to – through lobbying, etc. We know how it works, but at least in theory and often in practice politics has the legal power to change the rules when essentially business doesn't ... So let's see what happens with the European Union. If the European Union decides to change the law on competition then we will see a real difference. I am a little bit more hopeful now than I was two years ago because I see America changing perspective. I think American legislators are getting tired of Facebook and similar companies, are worried about their power and they start looking into the possibility that maybe it's time for these big companies to be reduced to smaller and more competitive organizations, that maybe it is time to make the market more competitive.

But, as you said before, in this field of legislation we are finding the problem with territoriality not because the legislation in Europe is okay but most of these companies come from the United States so ...

So that's why the change should happen there. Now it is more difficult than to say *my place, my rules* will stop these companies ... That doesn't mean that those companies live on the Moon ... There is either a universal legislation everywhere or a specific legislation wherever they have their headquarters. That's why we need to convince our American colleagues to change the laws, because those are American companies. At the same time, you can put some pressure on them, remembering that there are four tools. One of them is the market: Europe is the biggest market for this kind of company outside America. If Europe decides that in this market these are the rules ... You might see what has happened with the car industry. The car industry is also non-European but, in terms of CO2 emission and environmental rules, Europe has raised the bar constantly and it has changed the industry ... The same has happened with big pharma, with oil companies ... It's a struggle but there is progress in that struggle. I

think we can do the same with digital companies, so in that sense I'm very much not against business but am pro regulation.

Legislation to guarantee freedom

"If our online lives are based on the circulation of information, whoever controls the information has the keys to all", you once declared. That is, whoever manages relationships, whoever conditions interactions, whoever controls questions, is conditioning the perception that we have of ourselves and of the world. You called it the "new grey power" or the "sixth power". If in a mature information society we cannot do without mediators, they can become a strong risk to freedom

Oh, yes!

Are you suggesting a debate in society to make clear rules ... ?

I think also in this case more competition would be very welcome. So, imagine if we had only one newspaper in town, like Pravda⁶ ... It doesn't matter if the title means "the Truth", you know that they controlled any information ... Paradoxically in these days we think we have such freedom of information but it is heavily controlled, and the fact is that there's a lot of freedom of "rubbish information". Places like Facebook, Twitter and so on allow that rubbish to circulate ... I have heard a million times arguments in terms of "it is technically difficult to avoid rubbish information" ... That's not true. It's easy to compare this, for example, to copyright. Try to put a song on YouTube that doesn't belong to you ... it takes a moment before someone takes it down and sends you a warning. So how I can put up Nazi or anti-Jewish messages, or messages against essential values that can stay up for days or months? It happens because these companies don't care enough, in the philosophical sense of "care" ...

So there are two points that creates tension in terms of freedom of information. On the one hand, the freedom that we perceive is not so free, there are very powerful controlling agents out there and the appearance – even the chaotic appearance – is precisely allowed. At the same time, we shouldn't confuse the whole digital Internet, web, etc., just as a matter of communication because it's also an environment. We live there. We spend time there. It's not like tv or radio: I never live on the radio or on tv but I spend a lot of time on internet, on the web ... Language does matter here. So, what's different here is that in terms of freedom of information we create an environment, then it is regulated very differently than, let's say, a telephone company or a newspaper.

Very recently Zuckerberg said that legislators should treat Facebook like a half-way, a mixture between a telephone company and a newspaper (Wintour 2020) ... My reply is no, because Facebook is more like something between a park and a square, it's a public place, a commons. When we talk at the phone it is a private communication and we might decide to say whatever we want, but if we put something on Facebook it's like screaming in the middle of the square because it is a public space. I don't have the same freedom that I would have on a telephone call with my friend.

The idea that we are running into trouble with an Infosphere that's polluted becomes a serious problem that we need to address right now. I see two ways to

address it. One is to make these companies less powerful. The other one would be to make the public pay for the content (but this I don't see happening). If we were to break the current vicious circle, we would be much more careful and a lot of rubbish wouldn't be going around, it would be too costly.

You believe that these companies are not neutral when they allow themselves the right to block some users or to delete tweets. In those cases they take part in shaping public opinion....

In both a proactive and in a passive way. Proactive in what they do, and passive in what they don't do. From my good Catholic education, I know that omission could be as dangerous as doing something wrong, not taking care, not doing, not intervening could be dangerous... Here there is no neutral approach, it is a decision. Whenever Facebook allows some information to spread, it is not like: "Oh, I'm just letting people know, I give people what they want"... No, no, that's a decision, it's a decision for which Facebook should be responsible.

There is a misalignment or lack of balance. I don't understand why social media should be treated so differently from old mass media (the newspapers, radio and so on), where editors have high responsibility. If we had decided to treat social media like we treat newspapers I think we would have seen something slightly better than what we have now. Of course they are not editors, I am not arguing for an identity, but for an equation: in the same way as newspapers are regulated by appropriate rules, social platforms may be regulated by their own, equally appropriate rules.

The US threatens to block Tik-Tok, Europe fines Facebook, China bans WhatsApp... It seems that there is a war between governments and large communication multinationals. The management of data that citizens offer online, in this sense, has encouraged a "rethinking of digital sovereignty". What do you propose?

Sovereignty is a form of control. It is the control that a political entity normally has on its citizens and the resources of its country. The people vote for a particular government, the government has sovereignty, the sovereignty is over the people and there's a good sort of consistency. In that context, the kind of points that you were referring to – Tik-Tok in the US, WhatsApp in China, also now India blocking a lot of Chinese apps – these are nationalist or state-run reactions to other states. Is it true that China wants to protect its citizens and therefore on behalf of its citizens is blocking some apps...? It's more like one particular political power fighting another power for their own interests. That is a completely different story. Europe or Sweden decides to ban Chinese companies Huawei and ZTE from its networks on security grounds and China hurts them back (Yang 2020; Keegan 2020)... But it's not on behalf of the citizens. It's like putting extra taxes on some products because we want to punish another government, it has very little to do with the wellbeing and welfare of the citizens.

Religion and the web

In the digital environment, there is great interest in religious content, which was evident during the COVID pandemic when thousands of live broadcasts of ceremonies and events

on YouTube and Facebook were made, such as the live broadcast of the Pope's Prayers from St. Peter's on March 27, 2020⁷ ... What could be the contribution of religious confessions in the world of Infosphere? Does the network allow for the expression of the human spiritual dimension or does it limit it?

If I start from the last point, I think you can do both. It can be a huge form of distraction, for example, more consumerism, worse behaviors, more selfish behaviors but that is a dual nature of the tool. It can also provide so much more content, opening, exposure to different cultures and different ideas and also better forms of behavior, more refined taste, essentially a more human way of living.

I remember discussions about this even in the 90s, whether any confession, any religion, could somehow use in a good sense, could leverage the internet, the web, and other technology apps to help humanity. Religions, and especially the Catholic Church, have a serious concern and interest about all these technologies. What religion can bring to the digital revolution is a spiritual dimension that is quite natural to it. If anything, we are a little bit less obsessed with the materiality of the world when we are online, so if anything it is just a little bit easier to concentrate more on the meaning of what we're saying, what we are experiencing, as opposed to "if I cannot touch it it's not real". So I don't want to put my finger anywhere – like a digital Thomas⁸ – before I will believe that something is real. I think that helps in terms of lifting the eye of humanity from its own belly to its own mind, to its own understanding. I am inevitably, philosophically speaking, inclined to think that the spiritual life is the life of the mind, is the real life. I'm also worried, of course, by the wrong exploitation of the wrong kind of religion, by the fundamentalism that use the same tools, the wrong preacher, the crazy believer ...

Can we also consider this spiritual sphere of the person as "informational content"?

The way I came to be so interested in the information revolution and digital technology was because, as an undergraduate, I was interested in understanding at the time how God could speak to humanity. That's where I started as undergraduate and where I hope I will go back one day. As I said, as a very young philosopher, I interpreted that literally, almost in Shannon's terms (Shannon and Warren 1949): there's a source, which is God, a messenger, which could be an Angel, a good message, the gospel, a bush on fire in the desert ... and a receiver, which is humanity. But then, how come humanity doesn't get the message? Why is it so opaque sometimes or is so confusing? So, the whole story there became very confusing for this young, rather naïve philosopher ...

So back to your point: is there an informational way of understanding religion? To me it seems so. Yes, I mean, the Logos, the Good News, is it not all about information? ... Of course. Digital revolution is much more than how much information you could put on a hard-disk. It has kicked us into motion to re-appropriate, if you like, the Christian message as a message. All that, to me, is philosophy of information: "In the beginning was the Word" [John, 1:1], the Logos ...

I'm no longer a believer, but what gives me an enormous sense of mission and enthusiasm in doing philosophy of information for our twenty-first century is that this

is a unique opportunity to regain some truly spiritual understanding of our life, whether one does or doesn't believe in God. Spirituality – and it's a big question, I still have to understand completely – maybe spirituality can survive even without God. I don't know honestly, I'm not sure. If it cannot survive by itself, then God has to exist, because spirituality is there. So, you couldn't have one without the other.

It is one of the things I said when I was recently invited at the Meeting of Rimini, organized by Communion and Liberation. The question that today wakes me up in the morning and is there when I go back to sleep is this one: is an immanent semantics possible? In other words, can we really reduce the whole of human existence to history or not? I don't know and I'm afraid I will probably die without knowing it. I have then impression that a positive answer is more likely, but the immanent nature of meaning or semantics is the question to me today: whether it is not possible to reduce human existence to history. If it is possible, then we can actually be entirely secular and still perfectly tolerant and open to a religious view but not necessarily wedded to a religious view. The question is like a roundabout, where you can go one way or the other, or stay there, in the roundabout, like me, undecided as an agnostic, not knowing where to go. Welcome to the desert.

Notes

1. Floridi maintains that humanity is going through the fourth revolution: the first one occurred as a result of Copernicus' theories (we discovered that we are not the center of the universe); the second one, with Darwin (that we are not so different from animals); and the third one with Freud (that we do not know ourselves completely). The digital revolution – which repositions us in the universe again – began with Alan Turing (Floridi 2014, 89-91).
2. Floridi refers to Ulysses' journey in the Odyssey. After the Trojan War, the hero wants to return to his city, Ithaca, but finds obstacles that prevent him from doing so. Ulysses is always moved by the memory of his wife Penelope's love. The return to Ithaca represents then the desire of every man to find the original place, where he feels loved.
3. In terms of logic, "Each of two or more terms, objects, or events between which a relation exists"(Oxford English Dictionary).
4. For Floridi, a "mature information society" is characterized by living in an online context. Citizens take certain services for granted. If they can't enjoy them (e.g. Wifi), the situation is abnormal (Floridi 2020, chap. 7).
5. Nudge is a concept used in economics, political theory, and social sciences, which recommends indirect but positive suggestions to influence someone's behavior and decision making (Wendel 2016, 95-125).
6. It means "The truth" in Russian, it was the title of the famous official newspaper during the communist dictatorship.
7. 17.4 million viewers in Italy alone, 11 of them through live TV channels and the others online. Cfr. Giacomo Gambassi's article, "Coronavirus. Ascolti record in tv per la benedizione del Papa: 17,4 milioni di italiani", in *Avvenire*, 28 marzo 2020: <https://www.avvenire.it/chiesa/pagine/papa-benedizione-urbi-et-urbi-coronavirus-record-ascolti-tv-17-milioni>
8. He refers to the scene in the gospels where Saint Thomas refuses to believe in the Resurrection until he is able to put his finger into the wound in the side of Jesus Christ.

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