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On Floridi's metaphysical foundation of information ecology

Rafael Capurro
Information Systems, Stuttgart Media University, Redtenbacherstrasse 9, 76133 Karlsruhe, Germany
E-mail: capurro@hdm-stuttgart.de

Abstract. The paper presents a critical appraisal of Floridi's metaphysical foundation of information ecology. It highlights some of the issues raised by Floridi with regard to the axiological status of the objects in the "infosphere," the moral status of artificial agents, and Floridi's foundation of information ethics as information ecology. I further criticise the ontological conception of value as a first order category. I suggest that a weakening of Floridi's demiurgic information ecology is needed in order not to forget the limitations of human actors and/or of their surrogates, digital agents. I plea for a rational theoretical and practical view of such agents beyond utopian reasoning with regard to their potential moral status.

Key words: information ethics, Luciano Floridi, infosphere, foundations, artificial agents, information ecology, intercultural information ethics

Introduction

With his paper "Information Ethics: On the Theoretical Foundations of Computer Ethics" Luciano Floridi started an international discussion on what was called up to that time computer ethics (Floridi 1999). One indicator of the impact of this paper is provided, for instance, by a Google search on "information ethics" which selects it among the first ten of some 436,000 hits. Another indicator is the Wikipedia article on "Information Ethics":

> *Information ethics* is the field that investigates the ethical issues arising from the development and application of information technologies. It provides a critical framework for considering moral issues concerning informational privacy, moral agency (e.g. whether artificial agents may be moral), new environmental issues (especially how agents should one (sic) behave in the infosphere), problems arising from the life-cycle (creation, collection, recording, distribution, processing, etc.) of information (especially ownership and copyright, digital divide). Information Ethics is therefore strictly related to the fields of computer ethics (Floridi 1999) and the philosophy of information.

This article highlights the connection between information and computer ethics citing Floridi and his neologism "infosphere" as a key source. Of course, the Google search engine and Wikipedia are not understood as valuable indicators of the academic impact of the cited paper but of the general public attention paid to it. Shifting from computer ethics into information ethics is not just a matter of words. Let us recall James H. Moor's definition of computer ethics from 1985:

> On my view, computer ethics is the analysis of the nature and social impact of computer technology and the corresponding formulation and justification of policies for the ethical use of such technology. I use the phrase "computer technology" because I take the subject matter of the field broadly to include computers and associated technology. For instance, I include concerns about software as well as hardware and concerns about networks connecting computers as well as computers themselves. (Moor 1985, p. 266).

Floridi's shifting from computer ethics to information ethics addresses not just the question of how far computers challenge the morality of our actions, but also the question of how far we – and I think Floridi interprets this 'we' as addressing not primarily computer professionals but all stakeholders – are challenged by what he calls the "infosphere." This means more, as I will show, than making explicit the social and global change created by the Internet in the Nineties and what was called since the early Seventies the "Information Society."

Luciano Floridi and Jeff Sanders created in 2001 an institutional basis for information ethics, namely the "Information Ethics Group" (IEG) at Oxford

University, in collaboration with the Oxford University Computing Laboratory and the Faculty of Philosophy. At the same time, Floridi placed information ethics within the larger horizon of the "philosophy of information" (Floridi 2004; Herold 2004), a field whose roots, at least as far as the concept of information is concerned, go back to core concepts of Western philosophy in Ancient Greece, namely *idea*, *eidos*, *morphe* and *typos*. (Capurro 1978; Capurro and Hjørland 2003). These concepts were translated into Latin with *forma* from which the term *informatio* originates. Its core meanings are: "giving form to something" and "moulding of the mind" or "communicating something to somebody." Floridi's conception of a "plurality of ontologies" (Floridi 1999, p. 45) can be understood, I believe, within this tradition of Western metaphysics.

Information ethics evolved not only out of computer science but has also roots in the library and information science field. The University of Pittsburgh and Kent State University are among the US pioneers (Froehlich 2004; Hauptman 1988). In the last 10 years or so a plethora of international conferences have taken place and the number of scientific publications has dramatically increased. Specialized journals – such as the "Journal of Information Ethics," "Ethics and Information Technology," the "Journal of Information, Communication and Ethics in Society," the "International Review of Information Ethics" or the "International Journal of Internet Research Ethics" – have been created, and continue to expand in number. Professional societies such as INSEIT (International Society for Ethics and Information Technology) or ICIE (International Center for Information Ethics) have contributed to the development of information ethics as a professional research field together with courses in universities world-wide. Information ethics is a key issue for the United Nations, which has organized the UNESCO conferences on social, ethical and legal aspects of the Information Society since 1998 and the *World Summit on the Information Society* (WSIS) in 2003 and 2005. As an academic discipline, information ethics is in search of its identity (Tavani 2002). This is due to the fact that one of its main challenges, namely the field of information technology, is in a breathtaking process not only with regard to its world-wide impact at all levels of society, but also particularly on cultures and values (Hongladarom and Ess 2007; Capurro et al. 2007).

In light of the influence of Floridi's central notions on the field of Information Ethics, coupled with the growth and global scope of Information Ethics, it is especially important to critically evaluate Floridi's claims and arguments. In the following, I will first highlight some of the issues raised by Luciano Floridi on the axiological status of the objects in the "infosphere" as well as on the moral status of artificial agents. In the second part, I will present some criticisms of Floridi's foundational arguments and claims of information ethics as an information ecology.

Questioning the intrinsic value of information objects

Floridi develops a metaphysical foundation of information ethics which involves two key elements. First, instead of considering the digital interpretation of beings (i.e., as metaphysically more primary), it aims at fixing the meaning of Being *within* the digital perspective as today's prevailing interpretation of Being. Although Floridi speaks about "ontology," I agree with Terrell Bynum when he call this foundation(s) "metaphysical" (Bynum 2007). I have criticized this view in a recent paper on the basis of the Heideggerian difference between metaphysics and ontology (Capurro 2006a). As I will show later on, my criticism might be less strong in view of what Floridi calls "information ecology." Secondly, Floridi conceives information objects in the infosphere as having an "intrinsic value" and hence subject to moral respect (Floridi 1999, 2003). This is a key issue with which I dissent.

Why information objects do *not* have intrinsic value

Let me first present my argument as to why I disagree with Floridi's account of information objects as having an intrinsic value. *Value* is not a property of *things*, but the effect of our *relationship* to others. Things, natural or artificially produced, are *per se* worthless, no less than humans are *per se* invaluable. Things, either natural or artificial, have a potential economic value. Economy arises out of an evaluating process. "Diamonds are essentially worth nothing" says Mordechai Rapaport (Walt 2006). As the Australian philosopher Michael Eldred remarks, things are not intrinsically valuable, but they are good for something. Their usefulness, which is reflected and temporarily fixed as exchange value in money, arises only in the context of usages as a way of our living together or ethos in the sense of customary practice. As Eldred emphasizes, value is a "determination of reflexion" (*Reflexionsbestimmung*) or a "mirror relation" and not a property of things (Eldred 2004). Things are validated as valuable within the social interplay. This does not mean that the valuator would be able to assign a value ad libitum according

to arbitrary preferences. When the evaluation play takes place – and it does permanently from the very moment of our presence in the world as co-players – it refers also to the players themselves, their capabilities no less than their unique role as co-players. In this case we speak of moral values, i.e., of our mutual recognition of our capabilities as well as of our special role as co-players. Both aspects of our moral lives, as validators and as members of a community, are indirectly reflected in the "interplay" (Eldred 2006) of evaluating things. The difference between both interplays, the economic (evaluation things) and the moral (evaluating ourselves) one, is that in case of the moral interplay of our mutual valuation, we can become aware of the invaluable source *we* bring into the play that is also the source for the determinate value we ascribe to the productive action we call labour. This, as we can call it, *ethical difference* between both interplays makes plausible why evaluating things and products leads to a *potential*, i.e., non-definite determination of the value of what we produce or encounter. The productive and evaluating action itself is part of embracing social and natural processes in which we are intertwined on the basis of our specific way of being as valuators. This being intertwined in such an evaluating process of ourselves as well as of the things we encounter and/or produce is, to put it in Kantian terms, our dignity (*Würde*) which is then not grounded metaphysically on our being members of a transcendent world of *noumenal* beings, but phenomenologically as the immanent interplay in which we are *volens nolens* engaged. The origin of morality as the dimension of special attention and respect we owe or *pay* to each other, lies thus not merely in the autonomy of the person (as Kant emphasizes), but, more radically, in the intertwining of the worthless nature of things with our own invaluable evaluating presence by letting appear the potentiality of what remains indeterminate in the process of being, or, to put it in Taoist terminology, in the *dao*. From this perspective, economy, conceived as an interplay of evaluation, is something not only not opposed to morality but it belongs to the very essence or privilege of human existence. In contrast to this view, Floridi conceives an "information entity" – and everything that is, is an "information entity" differentiated according to the "specific essence of classes" (Floridi 1999, p. 45) – as having an intrinsic value. This is a classic view in Western metaphysics since Plato that leaves unquestioned the concept of Being (see below).

In other words, economy is a key anthropological feature that indirectly mirrors the moral play of ascribing values in which we are embedded as evaluating players. To exist as a human being is then not only to be able to evaluate natural and artificial products but also to reflect that capability onto ourselves and ascribe it to each other. No economic value reflects directly the human beings who function as invaluable mirrors, nor the process that gives origin to the whole and keeps it alive. When we loose sight of the players and the feeding process, we become *merely* objects of our own evaluation. We then often react with the affirmation of a so-called canon of (Western) values that are supposed to be *out there*, visible and permanent like physical objects, made symbolically explicit in declarations of human rights and codes of ethics. But it is our own evaluating existence which is out there mirroring the process of life. We humans, *qua* human, are evaluating beings (*ens aestimans*). We estimate the price of things no less than we esteem each other, learning thus to esteem ourselves. There is a whole range of possibilities between, say, love and price estimation. As far as we know, we are the only living beings capable of mirroring the world as the common invaluable horizon that allows us to evaluate things. This theoretical position is only *prima facie* an anthropocentric one. In fact, it says only that the process of valuation is based not just on the human valuator, but also on the mutual interplay of the human interplay with the common world as an invaluable horizon. This does not preclude in principle that this privilege could be extended to other natural or artificial entities becoming part of the interplay. (I will come back to this issue below.) Our reflection about this interplay particularly with regard to nature is usually called 'ecology.' I would then propose to reserve the term *intrinsic value* to entities like we are, i.e. to invaluable ones. This does not preclude the existence or artificial creation of similar ones and is therefore only *prima facie* an anthropocentric stance. This is a different perspective as the one proposed by Floridi who *also* tries to move the debate away from an anthropocentric focus. As far as human beings are conceived as being-in-the-world (Heidegger), the world itself understood as the time-space openness shared by beings of the kind we are, has itself an intrinsic value which means the paradox of the impossibility of becoming *just* an object of evaluation.

Weakening Floridi's demiurgic information ecology

The term 'information ecology' has been used in Germany since the Eighties (Capurro 1990). In his contribution to UNESCO's "World Commission on the Ethics of Scientific Knowledge and Technology" (COMEST), Floridi develops a concept of information ecology as the kind of information ethics appropriate

to deal with the world of data, information, knowledge and communication as a "new environment" he calls the "infosphere" (Floridi 2001). "New" is this environment since it is based on digital technology. But Floridi does not restrict *prima facie* the concepts of "infosphere" and information ethics to the digital. It becomes clear from his argumentation that the "infosphere" is conceived as ontologically different from the physical world. If this is the case, he is not arguing within the background of what I call digital metaphysics, i.e, the interpretation of all beings from a digital perspective. But it is in another sense still metaphysics as it clearly distinguishes between a physical or material and an immaterial world without making explicit the *question* of Being itself. I use the term metaphysics in the Heideggerian tradition as developed by Gianni Vattimo (Zabala 2007). Metaphysics means a fixed (implicit or explicit) interpretation of the Being of beings. Ontology, by the contrary, means making explicit the *question* of Being that allows to weaken theoretical and/or practical metaphysical ambitions about what things really 'are' such as, for instance, that we are "a bundle of information" (Floridi 1999, p. 53). Are we? In some regard yes. Floridi does not advocate for a crude informational reductionism but his informational perspective is, I guess, metaphysical.

When he addresses in this context the question of the digital divide (DD,) Floridi makes a "vertical gap" with regard to modernity as a project dealing with shaping and indeed mastering the physical world, while the "infosphere" is conceived as an "alternative" and "non-natural" environment or as the "atopic space of mental life" (Floridi 2001, p. 5). This is, as I already pointed out, a metaphysical or idealistic assumption. According to Floridi, the DD affects "individuals rather than societies" (Floridi 2001, p. 7). I would say, it affects societies and not just individuals. The *World Summit on the Information Society* is a clear example of the magnitude and complexity of the problem affecting the real and just the "mental" life of societies and even whole continents. Floridi opposes the control of the natural world as envisaged in modernity to the construction of the "infosphere." But I argue that this conception of the "infosphere" as a "hyperreality" separated from, as phenomenologists say, the "life world," is a delusion. The "infosphere," in case we still want to use this metaphor in order to address this complex phenomenon arising particularly since the use of digital technology, has become in the meantime a dimension of everyday life of millions and even billions of people, and hence it is not a particular "sphere" separated from it. It gives rise, indeed, to an environmental approach that includes, as Floridi rightly remarks, questions of energy consumption, ICT-generated waste and computer-related forms of illness beyond the specific 'environmental' questions of information pollution itself (Floridi 2001, p. 10).

It is not at least for me fully understandable how Floridi derives from these premises his four basic norms of a universal information ethics based on the moral denial of any kind of information entropy. These norms contradict not only the unavoidable phenomenon of, say ICT-generated waste and energy consumption, but also, for instance, deleting viruses, SPAM and all kind of 'non useful' information. Nearly 97 billion mails are sent daily worldwide in 2007, over 40 billion of which will be SPAM (Patrizio 2007). This objection can be questioned on the ground of Floridi's distinction between "messages" and "objects" in the sense that messages that deny existence do not deserve respect (Floridi 2003) or by considering SPAM as not being (semantic) information in Floridi's sense of the term. The difference between "objects" and "messages" is all but analytically clear and plausible. SPAM does have a semantic content and is well-formed and true – at least from the point of view of the producers! In other words, Floridi's "basic norms" (see below) are not only impracticable: further, they do not take into account that not only natural processes are based on a permanent process of creation of order or 'information' and entropy, but also all artificial creations.

To say this another way: communication processes no less than processes of memory and oblivion are based on selection. To view the "informational ecosystem" as something perennial is a Platonic fantasy. This view of a twofold – but not a *dualistic* – process such as in case of the natural and the (digital) informational is something we in Western cultures can learn from Buddhism (Nishigaki 2006). Floridi and Sanders weaken the idea that any kind of data destruction is evil (Floridi and Sanders 2004, p. 21) which shows at the same time that such a deletion of data is in direct contradiction with their original claims that all information objects are intrinsically valuable and eventually a logical contradiction.

Information ecology means then not only the process of selection, i.e., conservation *and elimination* of information through a permanent process of interpretation and communication within a so-called "infosphere" as a kind of Popperian "immaterial world," but, as Floridi rightly remarks, the way(s) of keeping on or blocking the interaction with "the physical environment, the biosphere and human life in general" (Floridi 2001, p. 10). This wording could still be interpreted metaphysically as it suggests the existence of separated "spheres" which interact with each other or as some kind of immaterial world of

thought and some material world outside it, which is nothing else than the Cartesian split. This split presupposes the original world-openness, or the "empty" and groundless world in a Buddhist view, that we share with others. Information ecology is in this regard not a metaphor taken from the physical world into the "infosphere," but instead can be understood as the original way in which we dwell in the world with others sharing it through human *logos*. The proclamation of abstract "basic norms" or *prima principia moralia* like

0. entropy ought no to be caused in the infosphere (null law)
1. entropy ought to be prevented in the infosphere
2. entropy ought to be removed from the infosphere
3. information welfare ought to be promoted by extending (information quantity), improving (information quality) and enriching (information variety) the infosphere. (Floridi 1999, p. 47)

looks *prima facie* very impressive, but under further scrutiny one cannot imagine the connection of entropy as a physical phenomenon with the "infosphere," particularly with the digital one. Even if we conceive the "infosphere" metaphysically as the whole of reality (*omnitudo realitatis*) it is difficult to understand how should we be able to "prevent" entropy, including our own death.

The key question of a flexible or situational information ethics that takes into account different natural and cultural settings and processes, no less than global informational aspects, is how to avoid blockages of this permanent changing intertwining. SPAM is an example of information overload that through its existence provokes such a blockage Information creation and information entropy are not moral opposites, as Floridi suggests (Floridi 2001, p. 5), no less than life and death, breath in and breath out or information and non-information. Take for instance the ongoing bioethical and legal discussion of the right *not* to know with regard to, say, one's genetic status (Andorno 2004). Freedom of research is not an absolute moral value, as we have learned from the atrocities of human experiments in World War II. In his article "The Tragedy of the Good Will," Floridi writes that in order to escape "the tragic condition of good will," we need more power, better information, global agents and an augmented ethics (Floridi 2006, pp. 259–260). He focuses the, as he calls it, "IT-heodicean problem" of information ethics into a question of an "ethics of creators (demiurges, as in Plato's *Timaeus*)" (Floridi 2006, p. 260). He extends, following Habermas and Rorty, the moral responsibility of "individual super-heroes" to the no less heroic ethics of "super-humanity." The main presupposition for this heroic enterprise is being to "*re-ontologize* the very nature of the infosphere," particularly with regard to "new or digital ICT" (ibid.). But, hélàs, humanity is not a Habermasian community and Charles Sanders Peirce's *dictum*, to which Floridi refers, namely "do not block the way of inquiry" (Floridi 2006, p. 261) has to be relativised with regard to other values and processes that could be blocked and even destroyed by such an unconditional moral imperative of scientific inquiry, as I already mentioned. In other words, the tragedy of the good will is that it tries to escape its condition by way of power, particularly by a humanity empowered by ICT as well as by "global artificial agents" usually called computer programmes.

Conclusion

Not only the ambiguity of such an escape remains unquestioned in Floridi's approach, but also the question of what has been called "negative ecology" (Schönherr 1989) following the paths of "weak thinking" (*pensiero debole*) opened by Gianni Vattimo (Zabala 2007). What we need is then to 'de-ontologize' the "infosphere" in order to weaken the demiurgic ambitions of Western metaphysics, including the somewhat exotic idea of creating artificial agents to whom we should be morally responsible (Floridi and Sanders 2004). We have some 6 billion moral agents on earth. Why should we create millions (?) of artificial ones? To recall Ockham's razor, *entia non sunt multiplicanda sine necessitate*. As Floridi himself remarks, we need "an open and rational process of discussion about what needs to be done first" (Floridi 2006, p. 261). To think about the possibility of artificial moral agents is in my view neither a realistic nor a rational alternative at least with regard to what needs to be done and thought first. Most of the issues raised today with regard to the epistemological and moral status of digital agents do nothing but repeat the arguments of the Seventies with regard to artificial intelligence (Dreyfus 1972; McCorduck 1979). To say that "any agent that causes good or evil is morally accountable for it" (Floridi and Sanders 2004, p. 21) is simply to dilute the concept of morality.

We need an intercultural debate on information ethics in order to critically discuss the limits and richness of human morality and moral thinking in different societies, epochs and philosophic traditions as well as on their impact on today's social appropriation of information technology. This would open different paths of theory and practice that would

weaken the ambitions of information technology, no less than the pretensions of moral codes and ethical thinking, and open at the same time different kind of strategies when dealing with the digital divide. This debate presupposes a patient and respectful philosophic dialogue that should not take place under a consensus compulsion of reaching universality also because universality remains, to put it in Kantian terms, a "regulative idea" that cannot be reached by any kind of moral codes. The role of ethics is to enlighten or weaken not only local moralities but also the pretension of universal principles with regard both to their unquestioned presuppositions and especially as far as they are practically misused for local interests. This is not a plea for moral relativism but an incentive to enlighten our minds and lives with regard to the open space of thought and the groundless world we share, which allow us to remain in an endless process of intertwining society, nature and technology, looking for flexible norms that regulate rather than block such a process. Western metaphysics has developed a path of thought that is based on the efficacy of power. Following François Jullien's view of such tradition "from the outside," i.e., from Ancient China, particularly from Daoism, we can discover alternative concepts and practices that challenge from the "Far East" the obviousness of frames of reference in the "Far West" (Jullien 1996). Such a dialogue can be paradoxically useful also by the nations in the "Far East" that have become or are becoming more and more Westernized but at the same time retrieve their own traditions – such as Confucianism in today's China – when trying to give information society a local identity (Capurro 2006b). Intercultural information ethics can be understood as deeply related on a theoretical and practical level to information ecology.

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