

Proceedings

# An Eco-Cognitive Perspective on the Philosophy of Information—Knowledge as a Duty <sup>†</sup>

Lorenzo Magnani

Department of Philosophy and Computational Philosophy Laboratory, University of Pavia, Pavia 27100, Italy; lmagnani@unipv.it

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**Abstract:** The second half of the 20th century has seen the rapid growth of information science, technology, and engineering that amounts to a social and technological revolution. These new trends have generated huge changes in several areas of human life, not only in western societies. I think that in this new age of information civilization the problem of the relationships between information and knowledge has to be readdressed. In this perspective the new challenges related to the generation, distribution, exploitation of information and knowledge have to be seriously seen in the light of their political, economical, educational, cultural, and moral consequences. In my opinion, it is especially in the framework of a study taking advantage of an eco-cognitive perspective that we can reach interesting results, as I have tried to illustrate in my *Morality in a Technological World. Knowledge as Duty*: the technological advances generated by information science, technology, and engineering of contemporary society have outpaced our moral understanding of the problems that they create and have brought about consequences of such magnitude that old policies and ethics can no longer contain them. I believe that producing, distributing, and applying recalibrated information as appropriate knowledge endowed with optimal and prosperous outcomes has become a duty, one that is just as important as making scientific or medical advances. I contend that to manage these challenges and counter many of information technology's ill effects is essential to preserve ownership of our own destinies, encouraging responsibility, and enhancing freedom. I will also discuss how objects, structures, and technological artifacts which carry information and knowledge and at the same time also serve, often implicitly, as moral carriers and mediators.

**Keywords:** technology; morality; duty; knowledge; moral mediators

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## 1. Extended Abstract

The second half of the 20th century has seen the rapid growth of information science, technology, and engineering that amounts to a social and technological revolution. These new trends have generated huge changes in several areas of human life, not only in western societies. I think that in this new age of information civilization the problem of the relationships between information and knowledge has to be readdressed. In this perspective the new challenges related to the generation, distribution, exploitation of information and knowledge have to be seriously seen in the light of their political, economical, educational, cultural, and moral consequences. In my opinion, it is especially in the framework of a study taking advantage of an eco-cognitive perspective that we can reach interesting results, as I have tried to illustrate in my *Morality in a Technological World. Knowledge as Duty* [1]: the technological advances generated by information science, technology, and engineering of contemporary society have outpaced our moral understanding of the problems that they create and have brought about consequences of such magnitude that old policies and ethics can no longer contain them. I believe that producing, distributing, and applying recalibrated information as

appropriate knowledge endowed with optimal and prosperous outcomes has become a duty, one that is just as important as making scientific or medical advances. I contend that to manage these challenges and counter many of information technology's ill effects is essential to preserve ownership of our own destinies, encouraging responsibility, and enhancing freedom. I will also discuss how objects, structures, and technological artifacts which carry information and knowledge and at the same time also serve, often implicitly, as moral carriers and mediators.

I will illustrate the following main themes:

Respecting people as things. I think that morality is distributed in our technological world in a way that makes some scientific problems particularly relevant to ethics: ecological imbalances, the medicalization of life, advances in biotechnology, and of course information technologies—themselves all products of knowledge—seem to me to be especially pertinent topics of discussion. The system of designating certain animals as endangered or some servers as fundamental for defense, for example, teaches us that there is a continuous delegation of moral values to externalities; this may also cause some people to complain that wildlife or servers receive greater moral and legal protection than, for example, disappearing cultural traditions. I wondered what reasoning process would result in a nonhuman thing's being valued over a living, breathing person and asked myself what might be done to elevate the status of human beings. One solution, I believe, is to reexamine the respect we have developed for particular externalities and then to use those things as a vehicle to return value to people. The well-known Kantian tradition in ethics teaches that human beings should not be treated solely as "means" or "things" in a merely instrumental way but should, instead, be regarded as "ends". I believe, however, that if we rigidly adhere to Kant's directive, we make it impossible to embrace an important new strategy: "respecting people as things", the notion that people must be regarded as "means" (things) insofar as these means involve "ends". In essence, the idea holds that human beings often can and even should be treated as "things", and that in the process they become "respected as things" that had been ascribed more value than some people. We must reappropriate the instrumental and moral values that people have lavished on external things and objects—for example the ones regarding information transfer—which I contend is central to reconfiguring human dignity in our technological world.

The potential benefits of "respecting people as things", then, undermine Kant's traditional distinction between intrinsic value and instrumental value, and they are not the only factors to do so: I argue that more advanced and more pervasive technology has also blurred the line between humans and things—machines, for example—and between natural things and artifacts, and that it has become increasingly difficult to discern where the human body ends and the non-human thing begins. We are in a sense "folded into" nonhumans, so that we delegate action to external things (objects, tools, artifacts) that in turn share our human existence with us. It is just this hybridization that necessitates treating people as things and, fortunately, that makes this course of action easier to pursue. Again, my counterintuitive conclusion is that instead of treating people as means, we can improve their lives by recognizing their part-thingness and respecting them as things.

Moral mediators: I have said that only human acts of cognition can add worth to or subtract value from an entity, and that revealing the similarities between people and things can help us to attribute to human beings the kind of worth that is now held by many highly-valued nonhuman things. This process suggests a new perspective on ethical thinking in its relationship with information technology: indeed, these objects and structures can mediate moral ideas and recalibrate the value of human beings by playing the role of what I call moral mediators. I derive the concept of the moral mediator from that of the epistemic mediator, which I introduced in my previous research on abduction and creative and explanatory reasoning. First of all, moral mediators can extend value from already-prized things to human beings, as well as to other nonhuman things and even to "non-things" like future people and animals. We are surrounded by human-made and artificial entities, whether they are concrete objects like a hammer or a PC or abstractions like an institution or society; all of these things have the potential to serve as moral mediators. For this reason, I say that it is critically important for current ethics to address not only the relationships among human beings, but also those between human and nonhuman entities. In the cases just mentioned, moral mediators are purposefully constructed to

achieve particular ethical effects, but other aspects and cognitive roles of moral mediators are equally important: moral mediators are also beings, entities, objects, and structures that objectively, even beyond human beings' intentions, carry possible ethical or unethical consequences.

External moral mediators function as components of a memory system that crosses the boundary between person and environment. For instance, when a society moves an abused child into a foster home, it is seeking both to protect her and to reconfigure her social relationships; in this case, the new setting functions as a moral mediator that changes how she relates to the world—it can supply her with new emotions that bring positive moral and psychological effects and help her gain new perspectives on her past abuse and on adults in general. Computational artifacts, programs, and networks also serve as moral mediators in many situations, as in the case of certain machines that affect privacy, identity, etc. The problem is that because the internet mediates human identity, it has the power to affect human freedom. Thanks to the internet, our identities today largely consist of an externally stored quantity of data, information, images, and texts that concern us as individuals, and the result is a “cyborg” of both flesh and electronic data that identifies us. I contend that this complex new “information being” depicts new ontologies that in turn involve new moral problems. We can no longer apply old moral rules and old-fashioned arguments to beings that are simultaneously biological and virtual, situated in a three-dimensional local space and yet “globally omnipresent” as information packets. Our cybernetic locations are no longer simple to define, and increasing telepresence technologies will exacerbate this effect, giving external, non-biological resources even greater powers to mediate ethical endowments such as those related to our sense of who and what we are and what we can do. These and other effects of the internet—almost all of which were “unanticipated”—are powerful motivators of our duty to construct new knowledge.

Knowledge as duty: I will explicitly clarify my motto “knowledge as duty”. In our technological world, it has become critically important for us to produce and apply ethical knowledge that keeps pace with the rapid changes around us. We are no less obligated to pursue this knowledge than we are to seek scientific advances; indeed, to neglect the ethical dimension of modern technology is to court disaster. Recent advances have brought about consequences of such magnitude that old policies and ethics can no longer contain them, and we must be willing to approach problems in wholly new ways. Our technology has, for example, turned nature into an object of human responsibility, and if we are to restore and ensure her health, we must employ clever new approaches and rich, updated ethical knowledge. The scope and impact of our current technological abilities have handed human beings the responsibility for, say, “nature” and “the future”, which were previously left to God or to fate. Consequently, my hope for knowledge that maintains and enhances our endowments of intention-ality, consciousness, and free-will choices; that strengthens our ability to undertake responsible action; and that preserves our ownership of our own futures. To offer a personal example, while I respect new objects or artifacts that integrate my cognitive activities, I believe it is imperative to explore the moral implications of such devices before embracing their use.

Indeed, basic aspects of human dignity are constantly jeopardized not only by human mistakes and wrongdoing but also by technological products. Constant challenges also come from natural events and transformations, both ordinary ones, like the birth of one's first child, and extraordinary ones, like epidemics, tsunamis, and hurricanes. I think that preserving and improving the present aspects and characteristics of human beings depends on their own choices about knowledge and morality, and I believe strongly that knowledge is a primary duty that must receive much greater emphasis than ever before and that the knowledge we create must be commensurate with the causal scale of our action. I propose that one way to achieve this and other goals is by accepting “knowledge as duty” and by using disciplines like ethics, epistemology, and cognitive science to rethink and retool research on the philosophy of technology.

It is in this perspective that, to avoid becoming victims of the normative effect of new technologies my moral motto “knowledge as a duty” is still applicable. New intellectual frameworks have to be built, as soon as possible. For example it is necessary to acknowledge that legal norms aiming at defending privacy have to be “incorporated” in the profiling technological tools themselves. As Mireille Hildebrandt [2] explains: “We are now moving into a new age, creating new

classes of scribes, demanding a new literacy among ordinary citizens. To abstain from technological embodiment of legal norms in the emerging technologies that will constitute and regulate our world, would mean the end of the rule of law, paving the way for an instrumentalist rule by means of legal and technological instruments. Lawyers need to develop urgently a hermeneutic of profiling technologies, supplementing their understanding of written text. Only if such a hermeneutic is in place can we prevent a type of technological embodiment of legal norms that in fact eradicates the sensitive mélange of instrumental and protective aspects that is crucial for the rule of law”.

**Conflicts of Interest:** The author declares no conflict of interest.

## References

1. Magnani, L. *Morality in a Technological World. Knowledge as Duty*; Cambridge University Press: Cambridge, UK, 2007.
2. Hildebrandt, M. Profiling and the Rule of law. *IDIS* **2008**, *1*, 55–70.



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