

# Technological Artifacts as Moral Carriers and Mediators

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## Abstract

In recent times, non-human beings, objects, and structures – for example computational tools and devices – have acquired new moral worth and intrinsic values. Kantian tradition in ethics teaches that human beings do not have to be treated solely as “means”, or as “things”, that is in a merely instrumental way, but also have to be treated as “ends”. I contend that human beings can be treated as “things” in the sense that they have to be “respected” as things are sometimes (sections 1-2). People have to reclaim instrumental and moral values already dedicated to external things and objects. To the aim of reconfiguring human dignity in our technological world I introduce the concept of *moral mediator* (section 3), which takes advantage of some suggestions deriving from my previous research on epistemic mediators and on manipulative abduction. I contend that through technology people can simplify and solve moral tasks when they are in presence of incomplete information and possess a diminished capacity to act morally. Many external things, usually inert from the moral point of view, can be transformed into what we call moral mediators. Hence, not all of the moral tools are inside the head, many of them are shared and distributed in “external” objects and structures which function as ethical devices.

## Respecting Things as People, Respecting People as Things

In recent times, non-human beings, objects, and structures like technological artifacts and machines have acquired new moral worth and intrinsic values. Kantian tradition in ethics teaches that human beings do not have to be treated solely as “means”, or as “things”, that is in a merely instrumental way, but also have to be treated as “ends”. I contend that human beings can be treated as “things” in the sense that they have to be “respected” as things are sometimes. People have to reclaim instrumental and moral values already enjoyed by external things and objects.

It is well-known that Immanuel Kant’s categorical imperative states “*Act only on that maxim through which you can at the same time will that it should become a universal law*”

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(Kant 1964, 88). When dealing with “The formula of the end in itself,” (pp. 95-98). Kant observes that

[...] man, and in general every rational being *exists* as an end in himself and not merely as a means for arbitrary use by this or that will: he must in all his actions, whether they are directed to himself or to other rational beings, always be viewed *at the same time as an end* (p. 95).

Kant’s considerations lead us to the following practical imperative: “*Act in such a way that you always treat humanity, whether in your own person or in the person of any other, never simply as a means, but always at the same time as an end*” (p. 96). In the “kingdom of ends everything has either a *price* or a *dignity*. If it has a price, something else can be put in its place as an *equivalent*; if it is exalted above all price and so admits of no equivalent, then it has a *dignity*” (p. 102). Things that human beings need have a “market price”; moreover, items that are merely desired rather than needed have an affective “fancy price” [*Affektionspreis*]. But “[...] that which constitutes the sole condition under which anything can be an end in itself has not merely a relative value – that is, a price – but has an intrinsic value – that is, *dignity*” (*ibid.*)

Kant’s wonderful lesson can be inverted: it is possible for things to be treated or respected in ways one usually reserves for human beings. Many things, or means, previously devoid of value, or previously valuable only in terms of their market price or affective price, can also acquire a moral status or intrinsic value. Conversely, just as things can be assigned new kinds of value, so, too can human beings, for there are moral positive aspects of treating people like things, as we shall see.<sup>1</sup>

Anthropocentric ideas, like those that inform Kant’s imperative, have made it difficult for people to acquire moral values usually associated with things and for things to attain moral worth traditionally reserved for people. We said that, in Kantian terms, people do not have to be “treated as means (and only as means).” I propose upgrading that idea with a new one – respecting people as things in a positive sense. In this scenario, people are respected as “means” in a way that

<sup>1</sup>To further clarify my concern about the moral relationships between “people” and “things” cf. below section 3 “Delegating ethics and the role of moral mediators”.

creates a virtuous circle, one in which positive moral aspects enjoyed by things can be used to reshape moral endowments attributed to people, like I will explain in this paper.

Perhaps the first “things” to gain new moral rights in western culture were women, a change that was not universally welcomed. Indeed, the ideas propagated in this direction by Mary Wollstonecraft in her 1792 treatise *A Vindication of the Rights of Women* were initially considered absurd (Singer 1998). This sort of ideological conflict has been played out again in the last few decades as animal rights advocates and environmental ethicists have waged a struggle similar to the one women faced in the eighteenth century – that of redefining a means as an end. To achieve that goal, some intellectuals and activists have sought to reframe how various plants, animals, ecosystems – even the land itself – are valued so that they are regarded as “ends” and accorded the rights and protection that status entails. As we will see in the following sections also technological artifacts and machines have been redefined as ends and have acquired new moral roles.

A curious example of the importance of my motto “respecting people as thing” is related to the case of the “endangered species wannabes”. Many people have complained about disappearing wildlife receiving more moral and legal protection than disappearing cultural traditions. A relatively recent US federal statute, the Visual Artists Rights Act of 1990, appropriates the language of ecological preservation when it establishes “rights of attribution, integrity, and the prevention of destruction of art of recognized stature for the creators of certain paintings, drawings, prints, sculptures, or photographs”(Nagel 1998). The importance of this analogy lies in the fact that some people consider themselves endangered because they do not feel as if they are treated as well as things (means).

## Hybrid People

Following Andy Clark’s conclusions on the relationships between humans and technology, we all are “constitutively” natural-born cyborgs – that is, biotechnologically hybrid minds.<sup>2</sup> Less and less are our minds considered to be in our heads: human beings have solved their problems of survival and reproduction by “distributing” cognitive functions to external non-biological sources, props, and aids. Our biological brains have delegated to external tools many activities that involve complex planning and elaborate assessments of consequences (p. 5). A simple example might be how the brain, when faced with multiplying large numbers, learns to act in concert with pen and paper, storing part of the process and the results outside itself. The same occurred when Greek geometers discovered new properties and theorems of geometry: they manipulated external diagrams to establish a kind of continuous cognitive negotiation with a suitable external support (like sand or a blackboard), to gain new important information and heuristic suggestions.<sup>3</sup> The use of

<sup>2</sup>Cf. *Natural-Born Cyborgs. Minds, Technologies and the Future of Human Intelligence* (Clark 2003).

<sup>3</sup>I have devoted part of my research to analyzing the role of diagrams in mathematical thinking and geometrical discovery (Magnani 2001b; 2002).

external tools and artifacts is very common: cognitive skills and performances are so widespread that they become invisible, thus giving birth to something I have called “tacit templates” of behavior that blend “internal” and “external” cognitive aspects.<sup>4</sup>

New technologies will facilitate this process in a new way: on a daily basis, people are linked to non-biological, more-or-less intelligent machines and tools like cell phones, laptops, and medical prosthetics. Consequently, it becomes harder and harder to say where the world stops and the person begins. Clark contends that this line between biological self and technological world has always been flexible and that this fact has to be acknowledged both from the epistemological and the ontological points of view. Thus the study of the new anthropology of hybrid people becomes important, and I would add that it is also critical for us to delineate and articulate the related ethical issues. Some moral considerations are mentioned in the last chapter of Clark’s book, in which he addresses important issues such as inequality, intrusion, uncontrollability, overload, alienation, narrowing, deceit, degradation, and disembodiment – topics that are especially compelling given recent electronic and biotechnological transformations. Nevertheless Clark’s approach does not shed sufficient light on basic ethical problems related to identity, responsibility, freedom, and control of one’s destiny, problems that accompany technological transformations. He clearly acknowledges such issues, but only in a minimal and general way:

Our redesigned minds will be distinguished by a better and more sensitive understanding of the self, of control, of the importance of the body, and of the systemic tentacles that bind brain, body, and technology into a single adaptive unit. This potential, I believe, far, far outweighs the attendant threats of desensitization, overload, and confusion [...]. Deceit, misinformation, truth, exploration, and personal reinvention: the Internet provides for them all. As always, it is up to us, as scientists and as citizens, to guard against the worst and to create the culture and conditions to favor the best (Clark 2003, p. 179 and p. 187).

As I contend, I think these problems are more complicated, and teasing out their philosophical features will require deeper analyses. What new knowledge must we build to meet the challenges of living as hybrid people? I certainly share Clark’s enthusiasm in philosophically acknowledging our status as “cyborgs,” but I would like to go further, to do more than just peer through the window of his book at the many cyberartifacts that render human creatures the consumers-cyborgs we are.

Our bodies and our “selves” are materially and cognitively “extended,” meshed, that is, with external artifacts and objects, and this fact sets the stage for a variety of new moral questions. For example, because so many aspects of human

<sup>4</sup>Tacit templates of moral behavior in relation to moral mediators are treated below in section 3. Their epistemological counterpart, which has to do with manipulative abduction, is illustrated in (Magnani 2001a).

beings are now simulated in or replaced by things in an external environment, new ontologies can be constituted – and Clark would agree with me. Pieces of information that can be carried in any physical medium are called “memes” by Richard Dawkins (1989). They can “stay” in human brains or jump from brain to brain to objects, becoming configurations of artificial things that express meaning, like words written on a blackboard or data stored on a CD, icons and diagrams on a newspaper, configurations of external things that express meaning like an obligatory route. They can also exist in natural objects endowed with informative significance – stars, for example, which offer navigational guidance. In my perspective the externalization of these chunks of information is described in the light of the cognitive delegation human beings concentrate in material objects and structures.<sup>5</sup>

Let us illustrate some ethical issues just related to our status of “cyborgs”.

### Humans and Machines as Knowledge Carriers

In the era of globalization human beings have been excised from many transactions – economic and otherwise – as the tasks they once managed have been transferred to external things like computer systems, machines, and networks. It seems many professionals have been affected by this process: certainly in fields such as medicine, law, engineering, architecture, and teaching, human beings are embodiments of specialized accumulated knowledge, and as a result, they serve as “biological” repositories, disseminators, and processors. The current trend, however, is to fill these roles, many of which require significant skill, with non-human computers and other tools. This movement signals a kind of “demise of the expert”, as the expert is expressed through the idea of knowledge as a monopoly of the professions. While control of knowledge by various professions and nations seems to be declining, corporate monopolies in the form of patents and intellectual copyrights are growing.

While the negative aspects of globalization are widely known, like the threat to some positive aspects of local cultures and traditions, that become subordinated to the market and corporate interests, I contend that this new era of locating knowledge outside human carriers also brings potential for at least some good. As knowledge and skill are objectified in non-human mediators (things that start to think and things that make us smart) cf. (Gershenfeld 1999; Norman 1993), outside of human carriers, different outcomes are possible: 1) the democratizing and universal dissemination of knowledge; 2) greater ownership and wider transmission of information by the corporate monopoly; and 3) less emphasis on labor as the source of value, which would transform the relationship between labor and capital (Teepie 2000, pp. 70–71). Globalization’s tendency to shift knowledge to non-human repositories could be beneficial, for in doing so, it makes information universally accessible. A greater pool of available knowledge could lead to interesting new possibilities while enhancing freedom and

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<sup>5</sup>I will address the role of this kind of cognitive delegation from an ethical perspective below in the following section.

increasing free choice.

In summary, human beings are not less important than the non-human artifacts to which they, as hybrids, are so closely related. We already respect non-human artifactual repositories of knowledge – libraries, medical machines like PET and MRI, computers, databases, etc., so it should be easy to learn to respect human ones – we need only to expand our idea of “knowledge carrier” to clearly and suitably include people. In summary, this hybridization in our era makes it necessary – but also easy – “to respect people as things.”

### Delegating Ethics and the Role of Moral Mediators

In (Magnani 2001a) I have illustrated abductive reasoning (reasoning to explanatory hypotheses) and I have described the role – in science – of what we can call “thinking through doing”. This surely suggests that reasoning and inferential processes also have interesting extra-theoretical characteristics. Also moral inferences have a role in the manipulation of various external objects and non-human structures as substitutes of moral “feeling” and “thinking” and supplements to them: there is a morality through doing. In this case the cognitive *delegation* to external objects, artifacts, and machines is constitutively ethical, and relates to the creation of what I call *moral mediators*.

The existence of this kind of extra-theoretical cognitive behavior is also testified by the many everyday situations in which humans are perfectly able to perform very efficacious (and habitual) tasks without the immediate possibility of providing their conceptual explanation. In some cases the conceptual account for doing these things was at one point present in the memory, but now has deteriorated, and it is necessary to reproduce it, in other cases the account has to be constructed for the first time, like in creative settings of manipulative abduction in science.

It is difficult to establish an exhaustive list of invariant behaviors that can be considered ethical manipulative reasoning. Expertly manipulating non-human objects in real or artificial environments requires old and new *templates* of behavior that are repeated at least somewhat regularly. Only exceptionally we are referring here to action that simply follows articulated, previously established plans; at issue are embodied, implicit patterns of behavior that I call tacit templates. This variety of “hidden” moral activity is still conjectural: these templates are embedded moral hypotheses that inform both new and routine behaviors, and, as such, enable a kind of moral “doing.” In some situations, templates of action can be *selected* from those already stored in the mind-body system, as when a young boy notices his baby sister crying and, without thinking, automatically tries to comfort the infant by stroking her head or singing a lullaby as he has seen his parents do many times. In other instances, new templates must be *created* in order to achieve certain moral outcomes.

The following tacit templates of moral behavior (cf. Figures 1 and 2) present interesting features:<sup>6</sup>

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<sup>6</sup>I just list them and describe in some details the templates

1. sensitivity to *curious or anomalous aspects* of the moral situation;
2. preliminary sensitivity to *dynamical character* of the moral situation, and not only to entities and their properties;
3. referral to manipulations that exploit *artificial created environments* and *externally induced feelings* to free new possibly stable and repeatable sources of information about hidden moral knowledge and constraints. This template feature is apparent, say, in a discussion of the moral problem of capital punishment when we exploit resources like statistics, scientific research, or information from interviews to gather real rather than faulty information, like the one about the genuine relief the murder victim's relatives feel when the criminal is killed. In this way a new configuration of the social orders of the affected groups of people is achieved;<sup>7</sup>
4. various contingent ways of spontaneous moral acting. This case contemplates a cluster of very common moral templates<sup>8</sup> (cf. Figure 1);

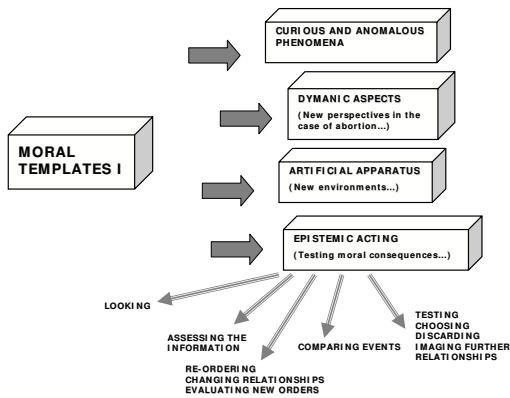


Figure 1: Conjectural moral templates I.

5. spontaneous moral action that can be useful in presence of *incomplete or inconsistent information* or a *diminished capacity to act morally* upon the world. Such action works on more than just a “perceptual” level;

6. *action as a control of sense data* illustrates how we can change the position of our bodies (and/or of the external objects) to reconfigure social orders and collective relationships; it also shows how to exploit artificially created events to get various new kinds of stimulation. Action of this kind provides otherwise unavailable tactile, visual, kinesthetic, sentimental, emotional, and bodily information that, for example, helps us take care of other people;

7. action enables us to build new *external artificial models* of ethical mechanisms and structures (through “institutions,” for example) to substitute for the corresponding “real” and “natural” ones. (Keep in mind, of course,

which are directly related to the construction of moral mediators. For a complete treatment (Magnani forthcoming).

<sup>7</sup>On the reconfiguration of social orders that is realized in science (laboratories), cf. (Knorr-Cetina 1999).

<sup>8</sup>Analogues of all these manipulative templates are active in epistemic settings: cf. (Magnani 2001a; 2002; Magnani & Dossena 2005).

that these “real” and “natural” structures are also artificial – our cultural concept of “family” is not a natural institution.) For instance, we can replace the “natural” structure “family” with an environment better suited for an agent’s moral needs, which occurs when, say, we remove a child from the care of abusive family members. In such a case we are exploiting the power of a *artificial* “house” to reconfigure relationships. A different setting – a new but still artificial framework – facilitates the child’s recovery and allows him or her to rebuild moral perceptions damaged by the abuse. A similar effect occurs when people with addiction problems move into group homes where they receive treatment and support. An even simpler example might be the external structures we commonly use to facilitate good manners and behavior: fences, the numbers we take while waiting at a bakery, rope-and-stanchion barriers that keep lines of people in order, etc.

Of course many of the actions that are entertained to build the artifactual models above are not tacit, but explicitly projected and planned. However, imagine the people that first created these artifacts (for instance the founders of the group homes for addicted people), it is not unlikely that they created them simply and mainly “through doing” (creation of new tacit templates of moral actions) and not by following already well-established projects. Many of the actions which are performed to build technological artifacts and machine endowed with moral delegations (moral mediators) are of this type.

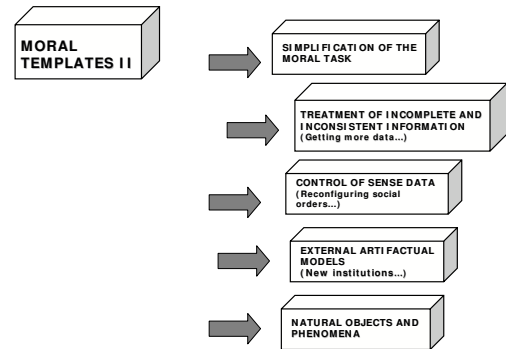


Figure 2: Conjectural moral templates II.

## Moral Agents and Moral Patients

Technological artifacts and machines are designed, produced, distributed, and understood in the human world; they are strictly intertwined with the social interactions of humans: technology affects what people do and how they do it. For example computers possess moral agency because they 1. have a kind of intentionality and 2. can have effects on the so-called “moral patients” that is they can harm or improve the interests of beings capable of having their interests impeded or furthered: “Artifacts are intentional insofar as they are poised to behave in a certain way when given input of a particular kind. The artifact designer has a complex role here for while the designer’s intentions are in the arti-

facts, the functionality of the artifact often goes well beyond what the designer anticipated or envisaged. Both inputs from users and outputs of the artifacts can be unanticipated, unforeseen, and harmful” (Johnson 2004).

Some ethicists maintain that entities can be framed as moral *patients* and as moral *agents*. Not only human beings but also things can be conceived of as moral patients (as entities that can be acted upon for good and evil) and also as moral agents (as entities that can perform actions and are sources of moral action, again for good or evil).

There are many cases:

1. the two classes are disjoint (no entity qualifies as both an agent and a patient, this is clearly unrealistic);
2. the first class can be a proper subset of the second;
3. the two classes intersect each other; (both cases 2. and 3. are not promising because they both require at least one moral agent that in principle could not qualify as a moral patient (we only have supernatural agents that can fulfil this requirement, for example a God that affects the world but is not affected by the world);
4. all entities that qualify as agents also qualify as patients and vice versa (standard position), and, finally,
5. all entities that qualify as patients also qualify as agents.<sup>9</sup>

The fact that animals seem to qualify as moral patients, that are excluded from playing the role of moral agents requires a change in the perspective 5. In short, certainly “things” (and so artificial entities)<sup>10</sup> extend the class of entities that can be involved in a moral situation, both as moral agents (for instance Internet) and as moral patients that enjoy intrinsic values (for instance a work of art). Of course the properties enjoyed by “things” of being a moral agent or patient are not the same as that of human beings. To make an example, artifacts can be agents of moral actions, but they are neither responsible nor exhibit free will, full intentionality, and emotions like human beings.

I think this distinction between moral patients and agents, certainly correct and useful, nevertheless obliterates the dynamic aspects instead explained following my perspective in terms of moral delegation and externalization. Indeed moral delegation to external objects and artifacts does not take place because a given thing is supposed to intrinsically possess a given set of properties appraised on their own. For example, the Gioconda has no free will, no proper intentions, and so on. However, the way it dynamically interacts with humans, and how they respond to it, is what gives value

<sup>9</sup>(Floridi & Sanders 2004). Carstein-Stahl (2004) has recently investigated the problem concerning whether computers can be considered autonomous moral agents. Since computers cannot understand the information they store and manage, they lack the basic capacity “to reflect morality in anything”. He argues on this point introducing an interesting and curious test called “the moral Turing test”.

<sup>10</sup>On the legal extension of personhood to artificial agents (for instance shopping websites) cf. the interesting conclusions of the recent (Chopra & White 2003). Very up-to-date issues related to the contracts entered into by artificial agents and to their punishment and financial penalties are also discussed.

to it. In this sense, my conception differs from the one that distinguishes moral patient from moral agent.

According to that view, the Gioconda (or an Internet selling system) would be a moral patient, because it does not possess all those features shared (or supposed to be shared) by human beings (conscious will, an actual free will, proper intentions, etc.). However, this view fails to account for the process by which we continuously delegate and give (moral) value to the things that are around us. For example, how could the patient-agent distinction account for the reason why the first present you received from your girlfriend may acquire such a great (intrinsic) value? It could be an old and haggard t-shirt, but it doesn’t matter, indeed.

Moreover, there is an additional reason to prefer my conception about moral delegation described above. The idea that some artifacts and machines should be respected, or should have rights on their own is also based on the claim they perform important cognitive processes, sometimes endowed with instrumental and economical value. They are moral patients and as patients they have to be respected. According to my view, this is a result of a moral mediation. As we delegate to the machines new moral worth, we can use them to depict previously unseen new moral features of cognition, that for human beings acquires a new value and a new extension. Some machines can play the role of moral mediators because they mediate new aspects of human beings’ moral lives.<sup>11</sup>

The patient-agent distinction specially elicits differences: it is very obvious that the moral agency of computers is not the same as that of human beings, and in this respect it is not different in kind from that of other technologies. It has been argued that computers have a kind of external intentionality (that is expressed in states outside of the body, such as speech acts, written sentences, maps, and other designed artifacts), but they cannot have internal intentionality: their agency can be compared to human “surrogate” agency, such as tax accountants or estate executors (Powers 2004). This illustrates the kind of moral character of computer systems by showing that computer systems have a kind of intentionality and have effects on moral patients, hence they are appropriate objects of moral appraisal. In these cases we are faced with a kind of “mind-less morality” (Floridi & Sanders 2003). The problem of the moral agency of artifacts also involves the construction of the suitable policies we can (and/or have to) adopt for “punishing” – that is censoring, modifying, re-engineering, removing – them.

I think the more extended concept of “moral mediator” can better encompass and explain the issues above: the moral patients and moral agents are special cases of moral mediators.

## Distributing Morality

I call the external objects and structures – in science – to which cognitive aspects and roles are delegated, *epistemic mediators* – a blackboard with a diagram, for example. In a recent book on abductive and creative reasoning, I have

<sup>11</sup>I will detail this point below in the subsection “Moral Mediators”.

just described epistemic mediators not only as external objects and structures but also as human organizations – in this case, viewed as distributors of externalized cognitive potentialities (Magnani 2001a). Cognitive mediators function as enormous new external sources of information and knowledge, and, therefore, they offer ways of managing objects and information that cannot be immediately represented or found internally using only “mental” resources. Analyzing these external structures is especially important in clarifying the role of media and of computational and information techniques. Epistemic mediators also help to organize social and cognitive decisions made in academic settings: examples of epistemic mediators are for instance artifacts in a scientific laboratory (a telescope or a magnetic resonance imaging machine) but also the organized collective of scientists itself, that is characterized by a specific distribution of cognitive roles, skills, and duties (Knorr-Cetina 1999).

I think the best approach to studying these problems is to use what I called *computational philosophy*.<sup>12</sup> The advent of certain machines and various rational methods and models brought about a computational turn in the last century, and this shift has revealed new ways to increase knowledge by embedding it in scientific and technological environments and by reshaping its major traditional topics. Just to make an example, the role of PCs and Internet in improving scientific research is very clear. In the new century, computational philosophy will allow an analysis of problems in recent logical, epistemological, and cognitive aspects of modeling activities employed in scientific and technological discovery. Computational philosophy supplies modern tools (new concepts, methods, computational programs and devices, logical models, etc.) to reframe many kinds of cultural (philosophical, ethical, artistic, etc.) knowledge that would remain inaccessible using old approaches, just mainly centered on the exploitation of mere “narratives”.

It is in this intellectual light that I introduce the concept of the *moral mediator*. Moral mediators play an important role in reshaping the ethical worth of human beings and collectives and, at the same time, facilitate a continuous reconfiguration of social orders geared toward rebuilding new moral perspectives.

To make an example, thinking in terms of cognitive capacities, a human being can be considered a kind of “thing” that can incorporate information, knowledge, know-how, cultural tradition, etc., just as cognitive objects like a book, a PC, or a work of art do. Unfortunately, human beings are sometimes assigned less value than things. Consider, for example, the life of a typical library book: depending on its age and value (not only instrumental and economic), librarians record its circulation, monitor its condition, repair it when needed, and replace it when necessary; books in wealthy countries are generally guaranteed such treatment. But the same care is not extended to many people who are carriers of the same knowledge one might find in the book described above or in other external objects like databases. Unfortunately, the cognitive content and skill of human beings are not always given the same rights and moral values as a book

or a database. There are no precise moral (and/or legal) rules that enjoin us to tend to the cognitive skills of human beings or the information they carry as we care for external objects and configurations endowed with cognitive worth. A book or a database can play the role of moral mediators.<sup>13</sup>

## Moral Mediators

The considerations in the previous subsection “Distributing Morality” indicate the fact that a significant portion of manipulations is also devoted to building a vast new source of information and knowledge: external *moral mediators*. I have derived this expression from “epistemic mediators,” a phrase I introduced in a previous book (Magnani 2001a, chap. 3), which consist of external representations, objects, and artifacts that are relevant in scientific discovery and reasoning processes. As I have already said moral mediators represent a kind of redistribution of the moral effort through managing objects and information in such a way that we can overcome the poverty and the unsatisfactory character of the moral options immediately represented or found internally (for example principles, prototypes, etc.). I also think that the analysis of moral mediators can help accounting for the mechanisms of the “macroscopic and growing phenomenon of global moral actions and collective responsibilities resulting from the ‘invisible hand’ of systemic interactions among several agents at local level” (Floridi & Sanders 2003).

More than just a way to move the world toward desirable goals, action also serves a moral role: we have said that when people do not have adequate information or lack the capacity to act morally upon the world, they can restructure their worlds in order to simplify and solve moral tasks. Moral mediators are also used to elicit latent constraints in the human-environment system. The links discovered grant us access to precious new ethical information. For instance, let us imagine a wife whose work requires long hours away from her husband, and her frequent absences cause conflict in their relationship. She then spontaneously begins to spend more quality time with her spouse in an attempt to save their marriage (cf. Figure 3). The mediating effect of her spontaneous action can cause variables affected by “unexpected” and “positive” events in the relationship to covary with informative, sentimental, sexual, emotional, and, generally speaking, bodily variables.

There was no discernible connection between these hidden and overt variables before the couple adopted a reconfigured “social” order – that is, increased time together – and uncovering such links reveals important new information, which, in our example, might be renovated and unexpected sexual pleasure, astonishing intellectual agreement, or surprising identical emotional concerns on specific matters.

Natural phenomena can also serve as external artifactual moral mediators: when in previous chapters we considered the problem of “respecting people as things,” we were referring to the ability of external “natural” objects to create opportunities for new ethical knowledge, as in the case

<sup>12</sup>Cf. Magnani (1997).

<sup>13</sup>Many ethicists believe it is only the ability to experience pain and pleasure that makes a being worthy of moral consideration. I think also cognitive aspects are important.

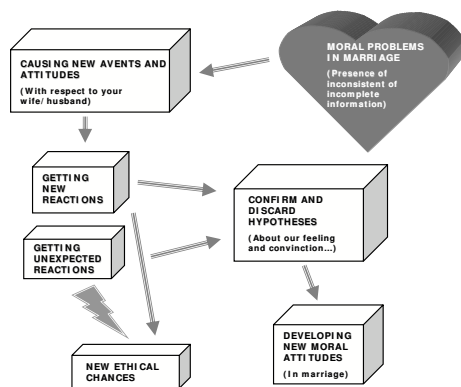


Figure 3: The extra-theoretical dimension of ethical change in marriage.

of endangered species: we have learned something new by seeing how people seek to redefine themselves as “endangered”. Many external things that have been traditionally considered morally inert can be transformed into moral mediators. For example, we can use animals to identify previously unrecognized moral features of human beings or other living creatures, as we can do with the earth, or (non natural) cultural entities; we can also use external “tools” like writing, narrative, ritual, and various kinds of pertinent institutions to reconfigure unsatisfactory social orders. Hence, not all moral tools are inside the head – many are shared and distributed in external objects and structures that function as ethical devices.

External moral mediators function as components of a memory system that crosses the boundary between person and environment. For example, they are able to transform the tasks involved in simple manipulations that promote further moral inferences at the level of model-based abduction.<sup>14</sup> When an abused child is moved to a house to reconfigure her social relationships this new moral mediator can help her to experience new model-based inferences – new model-based cognitive hypotheses – (for instance new emotions concerning adults and new imageries about her past abuse).

Moreover, I can alter my bodily experience of pain through action by following the template *control of sense data*, as we previously outlined, that is through shifting – unconsciously – the position of my body and changing its rela-

<sup>14</sup>I introduced the concept of model-based abduction in (Magnani 2001a). The term “model-based reasoning” is used to indicate the construction and manipulation of various kinds of representations, not mainly sentential and/or formal, but mental and/or related to external mediators. Obvious examples of model-based inferences are constructing and manipulating visual representations, thought experiment, analogical reasoning. In this light also emotional feeling can be interpreted as a kind of model-based cognition. Of course abductive reasoning - which is reasoning to hypotheses – can be performed in a model-based way, internally or with the help of external mediators. In this case I am referring to an activity of producing “moral” hypotheses in an abductive model-based way.

tionships with other humans and non-humans experiencing distress. Mother Theresa’s personal moral rich feeling and consideration of pain had been certainly shaped by her closeness to starving and miserable people and by her manipulation of their bodies. In many people, moral training is often related to these kinds of spontaneous (and “lucky”) manipulations of their own bodies and sense data so that they build morality immediately and non-reflectively “through doing.”

Artifacts of course play the role of moral mediators in many ways. Let us consider some effects on privacy mediated by certain machines. Beyond the supports of paper, telephone, and media, many human interactions are strongly mediated (and potentially recorded) through the Internet. What about the concept of identity, so connected to the concept of freedom? At present identity has to be considered in a broad sense: the externally stored amount of data, information, images, and texts that concern us as individuals is enormous. This storage of information creates for each person a kind of external “data shadow” that, together with the biological body, forms a “cyborg” of both flesh and electronic data that identifies us or potentially 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 at the same time biological (concrete) and virtual, situated in a three-dimensional local space but potentially “globally omnipresent” as information-packets. For instance, where we are located cybernetically is no longer simple to define, and the increase in telepresence technologies will further affect this point. It becomes clear that external, non biological resources contribute to our variable sense of who and what we are and what we can do. More examples dealing with computational and other artifacts as moral mediators are illustrated in (Magnani forthcoming).

Throughout history, women have traditionally been thought to place more value on personal relationships than men do, and they have been generally regarded as more adept in situations requiring intimacy and caring. It would seem that women’s basic moral orientation emphasizes taking care of both people and external things through personal, particular acts rather than relating to others through an abstract, general concern about humanity. The ethics of care does not consider the abstract “obligation” as essential; moreover, it does not require that we impartially promote the interests of everyone alike. Rather, it focuses on small-scale relationships with people and external objects, so that, for example, it is not important to “think” of helping disadvantaged children all over the world (like men aim at doing) but to “do” so when called to do so, everywhere.<sup>15</sup>

Consequently, “taking care” is an important way to look at people and objects and, as a form of morality accomplished “through doing,” achieves status as a fundamental

<sup>15</sup>Moreover, both feminist skepticism in ethics and the so-called “expressive-collaborative model” of morality look at moral life as “a continuing negotiation among people, a socially situated practice of mutually allotting, assuming, or deflecting responsibilities of important kinds, and understanding the implications of doing so” (Walker 1996, 276). Of course, this idea is contrasted with the so-called ‘theoretical-juridical conception of morality.’

kind of moral inference and knowledge. Respecting people as things is a natural extension of the ethics of care; a person who treats “non-human” household objects with solicitude, for example, is more likely to be seen as someone who will treat human beings in a similarly conscientious fashion. Consequently, even a lowly kitchen vase can be considered a moral mediator in the sense I give to this cognitive concept.

When I clean my computer, I am caring for it because of its economical and worth and its value as a tool for other humans. When, on the other hand, I use my computer as an epistemic or cognitive mediator for my research or didactic activities, I am considering its intellectual prosthetic worth. To make a case for respecting people as we respect computers, we can call attention to the values human beings have in common with these machines: 1) humans beings are – biological – “tools” with economic and instrumental value, and as such, can be “used” to teach and inform others much the way we use hardware and software, so humans are instrumentally precious for other humans in sharing skills of various kinds; and 2) like computers, people are skillful problem solvers imbued with the moral and intrinsic worth of cognition.

### Conclusion

The main thesis of this paper is that in recent times, non-human beings, objects, and structures like technological artifacts and machines have acquired new moral worth and intrinsic values. Kantian tradition in ethics teaches that human beings do not have to be treated solely as “means”, or as “things”, that is in a merely instrumental way, but also have to be treated as “ends”. I contend that human beings can be treated as “things” in the sense that they have to be “respected” as things are sometimes. People have to reclaim instrumental and moral values already enjoyed by external things and objects. This is central to the aim of reconfiguring human dignity in our technological world. Aiming at illustrating the intrigue of this ethical struggle between human beings and things I have discussed the role of objects, structures, and technological artifacts by presenting them as *moral carriers* and *mediators*. I maintain this perspective can be very fruitful to approach many other problems related to the relationships between machines and ethics.

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