6 The Zombies of the Digital
What Justice Should We Wait For?

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> "Hope is not memory held fast but the return of what has been forgotten."
> T. W. Adorno, "On the Final Scene of *Faust*"

What do we try to give up through the delegation at play in moral machines, for instance driverless cars that have to "choose" between killing passengers or pedestrians, old or young people?[1] Is there any aspect of a moral decision that cannot be delegated to a machine, however clever it might be, without destroying the idea of decision itself? To answer these questions, it is necessary to examine happens when abstractions, "immaterial" acts (like moral decisions) are turned into material, concrete, planned operations that machines – for instance self-driving cars, but also military robots – can take charge of. Yet it is impossible to understand such transformations – from the immaterial realm to the material level – without considering, conversely, their ontological counterpart: the digitalization of the world, the transformation of analogic reality into a system of zeros and ones, a trans-mutation without which programs helping doctors in their medical diagnosis, or facial recognition systems in airports, would be impossible.

In this chapter, I shall argue that this double process – the two-way exchange between the virtual and the actual – is always incomplete, and necessarily fails; partially at least. The analogic always resists its digitalization and gives rise to what I call "the zombies of the digital"; conversely, the actualization of virtual entities always represses some potentialities and leads to what I call the specters of the analog. Haunted by their Haitian predecessors, the zombies of the digital resist the virtualization of the world; dialectically, the specters of the analog await a collective, material body able to support their ontological claim regarding certain abandoned emancipatory projects. Both complain about their discarded mode of being, about their exploitation, the oppression they endure. Metaphors jamming the dominant ontological – but also, and maybe more than anything, political and economic – operations of transformation, the zombies of the digital and the specters of the analog ask us not to delegate our desire for justice.

Automatic, Autonomous: A Double Bind

Analog specters and digital zombies: how might we use this monstrous theoretical matrix when analyzing moral machines, these de-territorialized superegos hosted in technological shells? One could define moral machines as self-governing systems able to produce the good, or at the least to avoid the worst: that is to say, machines that, stemming from the development of autonomic computing and ambient intelligence, have the capacity and the right to take decisions leading to actions that we can consider as morally good, or bad.[2] Let us take the example of driverless cars faced with situations in which they would have to choose between whom to kill and whom to spare. My question is: what does it mean, in this situation, for a driverless car to take a moral decision?

We could agree that there are two main ways to consider the production of a moral decision. The first is, to use Kant's vocabulary, "heteronomous," meaning to apply a commandment, a tradition, a code, without having to found it or to test its foundations.[3] In this philosophical frame, an agent is supposedly moral when she respects and follows the sacred or quasi-sacred text without having the right to question it, except to transgress it. We know how Hannah Arendt challenged this morality while analyzing the Eichmann case, by showing how automatic respect leads to the denial of any moral law (2006, 133–7). The second way to make a moral decision can be described as "autonomous": it requires using reason defined, with Kant, not as the understanding, *Verstand*, but as the faculty of ends, *Vernunft*, that is to say the capacity to determine a priori what is good and what is evil. I shall not say more in this article on the very well-known distinction between autonomy and heteronomy, but I wanted to remind us of it because I fear that, without this basic clarification, the expression "moral machines" could be misleading.

To explain why it would be misleading, let us return to the driverless cars: would we really want cars to autonomously determine the rational grounds of their moral actions? Would we want them to decide that, all things considered, it is better to kill young children than dogs, because dogs suffered unjustly for ages from subjection to humankind and its baseless anthropocentrism? Or that cars should kill human beings because the latter are responsible for climate change and so the only way to deal with the ongoing ecocide is to exterminate half of the world population, like Thanos does for the entire universe in the film *Avengers: Infinity War* (Russo and Russo 2018)? Or that it is better to kill young children than old persons because we should respect old people as they are wise? Or that it is impossible for smart cars to decide whether or not they should spare a woman or a man, because such choice cannot be morally justified on the ground of reason? Real autonomous driverless cars would illustrate a classic sci-fi nightmare, to which I shall shortly return, but before analyzing this nightmare, we could argue that *real moral machines would be apocalyptic*: we

should not want them, and I think that in the end we do not want them: what we really want are mechanical morals, the *mechanical* implementation of what *we* consider morally good. We want automatic superegos, to cite Marcuse: mechanical zombies.[4]

If we want mechanical zombies, it is because we fear and desire at the same time the autonomization of automatization. We fear this autonomization because it is always the occasion of a humiliation, a "narcissistic wound," à la Freud, stemming from this traumatic experience: seeing machines capable of performing actions we had assumed to be feasible only for us (Freud 1969, 135–44; see also Sloterdijk 2017, 217–36). But we also *want* this autonomization, because a very old promethean wish is at play in it: the capacity to create something that would be alive, intelligent enough, promoting us to the rank of divine creators. This contradictory desire leads to the double bind of the autonomization of automatons: "Be autonomous; but obey" is the command we want to give to wannabe smart machines. In other words: "Be autonomous; insofar as you do not really think, choose, or create." In this regard, and to borrow from Freud again, the double bind of the autonomization of automatons could be translated as an unconscious desire, a phantasy that I base on Freud's famous "a child is being beaten," which I turn into the following formula: "a human being is being beaten," hit and defeated by a machine (see Freud 1997, 1–30). To go through this fantasy, that is to say *pour traverser le fantasme,* as Lacan said, to escape the trap of our own desire, we need to answer the following questions: what do we really (want to) delegate to the moral machines? More precisely, what do we seek to give up through this delegation? Let us answer these questions in the second part of this chapter.

Subjects, Objects, Noojects

Our question is: what do we really delegate to the moral machines? A first answer could be: we delegate nothing more than what we delegate to any form of artificial intelligence, like in the case of programs that help doctors in their medical diagnoses, smart beds in geriatric hospitals that are able to detect whether the patient is still on the bed or has fallen on the floor, facial recognition systems in airports, AI that help manage job interviews, etc. What seems to be delegated in all these cases is a *cognitive operation*: producing a diagnosis, recognizing, analyzing, selecting, paying attention to something. But what do we do when we delegate a cognitive operation? Do the human beings then lose a part of their brain, triggering their becoming-zombie?

Let us not forget the lesson of German philosopher Gotthard Günther: the cognitive operations I identified above are *not* essentially human (2008, 205–26). Günther distinguished between two types of machines: the first are classical or "Archimedean-classical" machines, which work through mechanical and moving parts (lever, axle, wheel, propeller) and perform

their activities via the movement of their parts, for example a car; but as well, Günther says, the action of rolling something on a tree trunk. With its articulated limbs, the human body is the prototype of the classical machine. The second type of machines are trans-classical or non-Archimedean machines, which work without mechanically moving parts: a trans-classical, or say, cybernetic machine, provides information more than work and tends to function like a brain.

Like a brain (and Günther insisted on this point), one cannot reduce a trans-classic machine to its components: it is not a tool or a system of tools, neither is it the sum of its parts and of its materials – in other words, it is not an object. But one also cannot reduce a trans-classic machine to the human subject who produced it: neither an object, nor the imitation of a human subject, a trans-classic machine – or what Günther also calls a "mechanical brain" – reveals a specific ontological domain in its own right, this domain compelling us to rethink the subject/object Great divide underpinning the discussions about the relations between human beings and technologies. I said that the production of mechanical brains "reveals" an ontological domain, what does this mean exactly? The mechanical brain can be described as a set of processes of reflection – like memory, attention, projection into the future, and so on – that are *not* human-specific mental operations. Therefore, it is inexact or at least incomplete to describe trans-classical machines as merely the product of a process of externalization, the externalization of human skills. In other words, artificial intelligence is not, or at least *not only,* the externalization of human interiority: AI rather delimitates, reveals an ontological domain.

So, if the construction of trans-classical machines has revealed an independent region of being, this independence does not mean that trans-classical machines replace and ontologically harm human beings, but that we need to rethink what subjects (human subjects for instance), objects, and what I would like to call, instead of using the term trans-classical machines, noojects (*noos* meaning understanding, or mind) are, as mutually transcendent entities. Of course, it is possible to merge these independent entities, but fusions are always incomplete: if you merge a process of reflection with an object, you get something like a nooject assembled with a classical machine, but you do not get a subject. What you get then is the proof that "*ça pense*," it thinks, in other words the materialist proof that matter thinks. Or if you identify the human subject with the process of reflection, in a pure humanist gesture, you leave aside the object. Or if, à la Hegel, you imagine the supreme identity between the subject and the object, there is a strong chance that Absolute knowledge will stay apart from this synthesis, in the form of a machine able to compute in a very sovereign manner. There is the effect of Günther's trivalent logics: the dual representation governing our representations of the relations between human beings and technologies is obsolete; from now on, *we need to count with three terms, one of them representing what the identification between the two others cannot include* (I developed this analysis in Neyrat 2011, 147–78).

In this regard, is there really any problem with delegating cognitive activities to moral machines? Not at all, *if* we only consider these activities, or more precisely *if* we reduce a moral choice to a certain kind of cognitive action, insofar as this cognitive activity is not, essentially, a human one. So, thanks to Günther, have we got rid of the fantasy structuring the human–technology relation? Maybe we forgot that something deeper is delegated in the case of moral machines. Let us try now, in the third part of this text, to answer the second question I raised: what do we seek to give up through the delegation at play in the case of moral machines?

Civilization as a Driverless Car

The first time I saw the Moral Machines website, "a platform for gathering a human perspective on moral decisions made by machine intelligence, such as self-driving cars", showing "moral dilemmas, where a driverless car must choose the lesser of two evils, such as killing two passengers or five pedestrians", I was struck by several things: firstly, the limited frame of the choice we are asked to make, the fact that everything seems to occur in a very narrow environment; secondly, the feeling of temporal inevitability: we are at the end of a process and everything is already set up – on the way to hell; thirdly, the either-or structure, only conjuring up dual situations; fourthly, the *necessity* to act, as if morals were necessarily required us to *do* something. These limitations are not accidental: they completely define the sort of morals at play with these moral machines and their impoverished universe.

Let us first analyze the fourth feature I identified: morals understood as action, something to be done, to be realized, implemented, with a tacit ontology according to which something is always better than nothing, action always better than non-action. This very Western conception of morals is homogeneous with the modern imperative that we can formulate thus: "Realize the possible, all the possible." In other words: "Act as if nothing was impossible." As Günther Anders wrote in *The Obsolescence of Man*,

> What can be done must be done … The possible is generally accepted as compulsory and what can be done as what must be done. Today's moral imperatives arise from technology … Not only is it the case that no weapon that has been invented, has not also effectively been produced, but every weapon that has been produced, has been effectively used. *Not only is it a rule that what can be done, must be done, but also that what must be done is inevitable*.
>
> (Anders 2015)

When everything becomes possible, the impossible withers and eventually disappears. Hannah Arendt's meditation on the camps can help to think the modern disappearance of the impossible: "The concentration and extermination camps of totalitarian regimes serve as the laboratories in which the

fundamental belief of totalitarianism that everything is possible is being verified," Arendt argues in *The Origins of Totalitarianism* (1976, 437). Not "everything is allowed" – which is the motto of nihilism – but "everything is possible", that is to say, there are no moral limits. So, when Arendt argues that, in the camps, "the impossible was made possible" (ibid., 459), the impossible then designates the horror perpetrated in the camps. But I would also argue that, in the camps, what happened was the extermination of the impossible as such: it does not only mean that the impossible was made possible, but that *the impossible was made impossible*. What kind of impossible? Precisely what Arendt calls "spontaneity," a term that must be understood along with Kant's *Critique of Pure Reason*, in its transcendental sense, as the faculty of "spontaneously beginning" something that is not determined, as the ability to start a new world in the world, as "an absolute causal spontaneity beginning from itself a series of appearances." (Kant 1998, 484). In the camps, Arendt explains, spontaneity, as transcendental freedom, was destroyed, "for to destroy individuality is to destroy spontaneity, man's power to begin something new out of his own resources, something that cannot be explained on the basis of reactions to environment and events" (1976, 455).

To destroy spontaneity is to destroy the "incalculability" and "the unpredictability which springs from the fact that men are creative, that they can bring forward something so new that nobody ever foresaw it" (1976, 458). That is why life in camps is like "life after death," (ibid., 445); that is why camps are, Arendt concludes, the place of the "living dead," not first because of moral horrors, but because of the destruction of spontaneity (ibid., 437, 441). The horror of making the living dead possible requires the prior abolition of the inaugural power of the incalculable.

Now, let us make a U-turn to our driverless cars, to calculate their metapolitical trajectory and identify the "camp" in which they circulate: do these cars not constitute the perfect metaphor for our civilization? We (post) modern subjects can choose whatever we want – except the possibility to question the mode of civilization that leads to the Sixth Extinction. Yet as Schelling wrote in his Stuttgart Lectures of 1810, "He who chooses does not know what he wants and consequently does not really have a will. All choice is the consequence of an unilluminated will" (1994, 204). What Schelling can help us to think is that a choice between killing pedestrians or passengers never questions the situation in which a car is on the verge of taking such actions. However, a *real* moral act should deal with the possibility of *not* being trapped in this kind of binary situation, this dead end. Concerning a certain number of technologies, a moral question should take the following form: "Act as if it were *not* necessary to act." Or, "Act as if it was possible to think twice before realizing the possible." Or, "Act as if it were possible to utter something like: I'd prefer not to." In this Bartlebian configuration, the good is not first the object of a choice between two different options, but based on *the conscious rejection of the evil of which we*

are capable, an evil that is a part of us. It is not that, as Plato famously argues, "no one wants to commit injustice, but all those who do it, do it involuntarily," but that only those who really know what evil they could have done, and still could do, are able to do the good (Plato 1979, 88). In the conception of the good I propose, a conception leaning on Schelling's metaphysics, the good is not severed from evil, but comes from it. Evil is never far away from the good, it is the abyss from which the good comes. A machine able to experience its own abyss, to confront its dark side, its unconscious, to do the good against the background of an unactualized evil, would be a moral machine.

The Zombies of the Digital

But what about what I call the zombies of the digital? What about their moral dimension? Their abyss? Let us go step by step. For the moment, the only zombies we have heard about are the ones that Arendt described, the "living dead" who have lost, in the concentration and extermination camps, the possibility to be incalculable, incommensurable, unpredictable, an unpredictability that is – contrary to Heidegger's thesis about death – the real possibility of the impossible. (For Heidegger, death is "the possibility of the absolute impossibility of Dasein" [Heidegger 1985, 294]). Am I going to say, with Agamben, that the camp is "the 'nomos' of the modern" and even of the postmodern? (1998, 166–80). Definitely yes; but for the following reason: I think that, vis-à-vis a certain number of choices that society and capitalism pretend to offer, we – we the citizens of the global mall, we the anthropocynicals – are not far away from occupying the position of zombies, at least of what we imagine as zombies. Zombies would be those who, believing that they autonomously drive their cars, have to "choose" whether they are going to kill pedestrians crossing at a green light or a red light. Zombies would be what capitalism wants us to be: driverless machines driven by FAANG. Or fans of the episode of *Black Mirror* entitled "Bandersnatch," in which viewers make decisions for the main character, the young programmer Stefan Butler, these decisions leading to different stories and different endings. Maybe not that different, all things considered: stuck in a world in which all the alternatives amount to the same thing, Butler learns from his 1984 computer screen that a company from the future, Netflix, controls him.

Control by and from the future is not a paranoid idea: it is called data mining. But data mining is not a pure virtual process implemented by driverless computers. Actually, Netflix and other high-tech companies use an army of zombies whose choices underpin their knowledge and their profits: Big Browser does not need to watch us, for we watch and click in its place. I refer here to digital labor, understood as the exploitation of unpaid labor underpinning the creation of content for social media. In his recent book *En attendant les robots: Enquête sur le travail du clic* (Waiting for the Robots:

Survey on click work), sociologist Antonio Casilli (2019) defines digital labor as what he calls "tâcheronisation," a term we could translate as piecework or "pieceworkization," that is to say, the fact of working on one very specific thing and, more precisely, with one finger. Clicking fingers are required for just-in-time applications that provide access to services or products, like Uber or Deliveroo. Paid one or two cents per job, clicking fingers also put labels on images, transcribe short texts, organize information, or record voices for online platforms. Among digital laborers, there are also all those who are not paid at all, that is to say us, all of us, when we watch videos, look at pictures, write short texts, comments, etc., for social networks. Day and night, Casilli reminds, we – the users, the digital zombies – select, label, tag, clean the data that the so-called artificial intelligence will harvest. While we should never forget that datafication requires digital labor, it is exactly what we do: we forget that the digitalization of the world implies the production of monsters, people who, like zombies, have a limited form of activity and moreover a reduced use of their body – bad news: Marx's General Intellect concealed disciplined fingers (see Virno 2007).

But do we really know what zombies are capable of? Zombies are obedient, they are good soldiers, as Fela Kuti sings about soldiers in dictatorships:

> Zombie no go go, unless you tell am to go
> Zombie no go stop, unless you tell am to stop
> Zombie no go turn, unless you tell am to turn
> Zombie no go think, unless you tell am to think.

Yet obedience and passivity only define *one* aspect of zombie psychology. As Sarah Lauro explains in *The Transatlantic Zombie: Slavery, Rebellion, and Living Death*, a zombie is "a two-headed monster," both dead and alive, both the "incarnation of the slave and the slave-in-revolt" (2015, 30). On the one hand, it is the figure of the dispossessed, the disempowered, the object in the hands of a master – as Haitian poet René Depestre said, "The history of colonization is the process of man's general zombification" (1971, 20). But on the other hand, the zombie is also the one who, like Jean Zombi, a mulatto warrior famous for his violent actions against white people during the Haitian revolution, knows that she can sacrifice herself for the revolution because she has nothing to lose, because she is already dead, because she is living "in a kind of living dead human-object state" (ibid., 62; for more on Jean Zombi see Dayan 1995, 36–8).

Thus, zombies revolt; they *can* revolt. They can represent the ideal worker of capitalism and its colonial control, like in *White Zombie* (Victor Halperin 1932); but they are capable of breaking the machine. To also provide a contemporary illustration of how zombies revolt, we could think about what happens in *World War Z* (Mark Forster 2013), when zombies climb over each other to cross a giant wall that is supposed to protect the living population. The lesson is that zombies do not respect walls, borders,

or the gap between life and death – they spread, they overwhelm: no fences, no gated community can prevent them from destroying everything. They shatter any fantasy of absolute security, any immunitarian approach to politics. They represent, in the end, the ultimate possibility to turn death against those who produce it.

Then, what about the digital zombies, for we seem to be so far away from a revolution against digital capitalism? It is true that I did not hear about Yellow Vests or any communal uprising in the Silicon Valley. However, the Silicon Valley – as Franco Berardi argues (2017) – is everywhere, situated in every computer, in every connected brain, and we cannot know in advance whether or not there will be a zombie insurrection. Moreover, we never know if zombies will be on the side of nationalism or on the side of internationalism, if they will fight for emancipation or for a repressive state, if they will feed the machine or break it. The only thing I know is that the zombie time has come. The abyss from which morals comes is unleashed; the dark side of the psyche rules human behaviors; the unconscious finds fewer sublimations than actings-out.

So, can we do something to prevent nationalism, right-wing populisms, and fascisms from shaping the zombie fight to come? I shall try at least – in the last part of this chapter – to light up the political terrain that digital zombies could share with analog specters in a common fight for justice.

The Specters of the Analog

Structurally, ghosts and zombies are completely opposed. While zombies are both dead *and* alive, specters are *neither* dead nor alive. While zombies imply Voodoo techniques meant to simulate death or to make it as if the dead being is not dead, but still alive, a specter attests to death's reality: a living dead entity is the denial of death; but a specter is the affirmation of the inescapability of death. A revenant comes back to tell us that someone has died, but that no tomb – symbolically speaking – was made for her: something was forgotten, or repressed. Let us think about the movie *Poltergeist* (Tobe Hooper 1982): the ghosts manifest themselves because a village was built on a native American cemetery, which entailed its secret displacement. A revenant is an entity that has come back to force human beings to recognize the existence of a wrong. What I call analog specters are revenants that follow from the ontological and political injustice that the processes of materialization, realization and concretization entail in the digital capitalist era. Let us shed some light on these twilight creatures.

Leaning on Derrida's hauntology, cultural critic Mark Fisher wrote about what he calls the "slow cancellation of the future." By this, he meant that some promises of the past have not been kept: "What haunts is the specter of a world in which all the marvels of communicative technology could be combined with a sense of solidarity much stronger than anything social democracy could muster" (Fisher 2014, 26). In this passage, Fisher refers to the repressed dreams

of the past, the dreams that digital capitalism did not realize – dreams of happiness, of solidarity, dreams about another world, not a world-beyond, but our world *as it should have been*. Let us focus a moment on the social-ontological function of dreams, following now the crucial analyses that Bernard Stiegler devotes to what he calls "noetic dreams" and the process of "exosomatization" in his book *Automatic Society* (2016, 65–93). Noetic dreams are those from which one can invent new social, anthropological, "non-inhuman" forms – to use Stiegler's adjective – commensurate to the world, to each current condition of the world. These dreams project unexpected social forms, individual and collective forms of life able to metabolize – to narrate, to symbolize – the advent of new technologies, new machines, new fluxes of matter and affects. I completely follow Stiegler when he reminds us, with, Jonathan Crary, that 24/7 capitalism prevents people from dreaming, as Burroughs had already said in 1969:

> America is not so much a nightmare as a non-dream. The American non-dream is precisely a move to wipe the dream out of existence. The dream is a spontaneous happening and therefore dangerous to a control system set up by the non-dreamers.
>
> (1974, 102)

I also agree with Stiegler when he explains that the requirement of permanent attention underpinning digital capitalism creates an artificial sphere severed from cosmic rhythms, that is to say alternations of day and night, activity *and* inactivity (2016, 244–7).

Leaning on Stiegler's analysis, I think it is possible to make a distinction between two kinds of non-realization.

Firstly, to return to Mark Fisher and his complaint against the destiny of communicative technology, there is the non-realized understood as the repressed possibilities for emancipation, explaining why, according to Walter Benjamin, history is written by the victors. These possibilities of emancipation and happiness have not disappeared, they haunt the future as *what could have been*. Having considered the twitterization of communicative technology as a cognitive disaster, we need to listen to the ghosts who ask us to maintain the dreams of cognitive blossoming, of political and social liberation, dreams about societies that would not be inhumane: we need to dream these dreams again, with new forms, and to *realize* them.

Secondly, this does not mean that every dream should be realized. If sleep and dream time are defined as moments of de-activation during which actions are inhibited, then society should protect these moments and the separation between reality and that which must be kept into the state of unrealized dreams, of fantasies – of *fantasmas*, that is to say, ghosts in Spanish. In other words, in order to realize the dreams thanks to which a civilization is possible, we need to make a distinction between *what has to be done* and *what should remain undone*. Killing, spreading chaos into the world, realizing all the bad

that we are capable of, turning the death drives into "necropolitics" (to borrow from Achille Mbembe 2003, 11–40), transgressing every prohibition, denying death – for instance in favor of transhumanism – and treating nature as a mere resource: there is a long list of dangerous dreams that *should have* remained in a dream state. The "blind hopes" that, according to Aeschylus, Prometheus has provided to human beings to enable them to stop foreseeing their death, *should have not been* turned into the passion for fire that led to what anthropologist Alain Gras calls our "thermo-industrial civilization," that is to say a civilization leaning on energy coming from the combustion of fossil fuels (Aeschylus 2009, 327; Gras 2017, 3–29). The world wide web *should have been* a milieu for cosmic individuations, not for capitalist success.

What I try to say is that there is a bloody war in the kingdom of the revenants, a ghost struggle concerning the right to existence. The right to existence concerns the life of the mind – in its material form – and the salvation of the body – when it is exposed to the drive to the digital that our civilization symptomatically manifests. The right to existence leads to the politicization of the ontological processes of virtualization and actualization. This politicization consists of refusing to consider the abstraction that is at stake in any process of automatization as a mere ontological process, or as a mere economic necessity, as the telos of history condemning a priori any luddism, any refusal of the machine, any desire to build another technological milieu, a technological milieu that would be at the same time a cosmic milieu. Because there is no telos of history, there are contingent decisions, forced bifurcations, binary choices about what has to be abstracted, extracted, exploited, and digitalized. And the ghost struggle is a struggle about the possibility to reveal these contingent decisions and to recall the promises of the past – to recall them or to forget them and to bury them forever.

Wreck and Hope

What I call in my text the zombies of the digital are potential luddites, potential fighters able to turn their slowness into an embodied manifesto against any accelerationist claim, any drive to progress; but to avoid the nationalist closure, they need to take note of the transhistorical program that the specters of the analog have conceived. Zombies have a marvelous skill: they know how to act and to fight in the present and they know how to resist white power and its accelerationist drive, the abstract, digital power of the white mega-machine that has produced them and despises them; but they would benefit from the memory of the ghosts, the memory that revenants have of the past and of the future – the cancelled futures, those that should have happened. Conversely, the revenants do not know how to embody their melancholic knowledge: they do not constitute any avant-garde, but rather an *after*-garde; they always arrive too late, and this is their damnation, they are the sweeper-cars of history and they merely try, after the fact, to remedy injustice. What the revenants of the analog need is a

terrain of struggle, a here-and-now: this is what the zombies of the digital provide, in the relentless, repetitive fight that they can engage in against any present power.

A temptation would be, after all these metaphors, to finish with concrete analysis, with a real political program about machines, moral machines, and the kind of morals we need to implement through these machines. But what I have tried to explain is that a questioning about moral machines risks preventing us from engaging in political reflection, a political analysis of the ontological processes of virtualization and actualization. To attempt a political analysis, to understand what is at play in the digitalization of our capacity to take moral decisions, I decided to use a metaphorical language, speaking about zombies and specters. The reason for this is that the metaphorical dimension is a battleground on which noxious abstractions can be fought, that is to say, on which it is possible to oppose abstractions to other abstractions, dreams to other dreams, hopes to other hopes. As we can read on the website of the leftist journal *Salvage*, "your hope disgusts us" but the hope I have backed in my article is not the one that, quite rightly, *Salvage* rejects, the hope to maintain the same ongoing disaster, the hope to avoid the collapse of our civilization while practicing business as usual. The hope I promote pertains to the survivors of the wreck that we call capitalism (be it geo-capitalism or digital capitalism, both are linked anyway), zombies and ghosts, that is to say us, all of us, now, from the past, and from the future: it is the hope that "creates / From its own wreck the thing it contemplates" (Shelley 1959, 300).

Notes

1 See the Moral Machine website (http://moralmachine.mit.edu/), "a platform for gathering a human perspective on moral decisions made by machine intelligence, such as self-driving cars", which I investigate at length in this chapter.
2 On autonomic computing and ambient intelligence, see Hildebrandt and Rouvroy 2011.
3 On the difference between autonomy and heteronomy, see Kant, *Critique of Practical Reason*, §8, Theorem 4, (Kant 2002, 48–9).
4 On the automatization of the superego, see Marcuse 1966, 93–4.

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