

TEMI ED EVENTI

Henri Bergson and philosophy as conceptual design: Towards a digital ontoethics

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Abstract According to Luciano Floridi, philosophy must function as conceptual design in order to effectively fulfil its role in the context of the revolution brought about by the global spread of *information and communication technologies* (ICTs). To do so, it must be grounded in two key assumptions: the ontological significance of the diffusion of ICTs, and the importance of addressing the governance challenges that arise from this phenomenon. In this article, I argue that the French philosopher Henri Bergson's reflections on the relationship between nature and technology remain highly relevant for addressing these issues and can offer a valuable theoretical framework through which to engage with them. Indeed, Bergson situates the production of artificial tools within the broader evolution of natural life, rejecting any dichotomy between the natural and the artificial, and emphasizing the ontological relevance of technology. In this way, his philosophical proposal contributes to a way of thinking in terms of ontoethics, a conceptual category that proves useful for grounding an ethics of artificial intelligence.

KEYWORDS: Henri Bergson; Technology; Nature; Artificial Intelligence; Ontoethics

Riassunto *Henri Bergson e la filosofia come progettazione concettuale: verso una ontoetica digitale* – Secondo Luciano Floridi la filosofia deve funzionare come progettazione concettuale per poter assolvere efficacemente il proprio ruolo nel contesto della rivoluzione prodotta dalla diffusione globale delle *tecnologie dell'informazione e della comunicazione*. Per farlo, deve basarsi su due presupposti fondamentali: il significato ontologico della diffusione delle tecnologie dell'informazione e della comunicazione e l'importanza di affrontare le sfide di governance che ne derivano. In questo lavoro mostrerò che le riflessioni del filosofo francese Henri Bergson sul rapporto tra natura e tecnologia restano di estremo rilievo per affrontare queste questioni e che sono in grado di offrire un prezioso quadro teorico per confrontarsi con esse. Bergson, infatti, colloca la produzione di strumenti artificiali all'interno della più ampia evoluzione della vita naturale, rifiutando qualsiasi dicotomia naturale/artificiale e sottolineando la rilevanza ontologica della tecnologia. In questo modo, la sua proposta filosofica contribuisce a un modo di pensare in termini di ontoetica, una categoria concettuale che si rivela utile per fondare un'etica dell'intelligenza artificiale.

PAROLE CHIAVE: Henri Bergson; Tecnologia; Natura; Intelligenza artificiale; Ontoetica

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1 Introduction

IN RECENT YEARS, THE TERM “infosphere” has become increasingly prominent. Although originally coined by others, it has spread in public discourse thanks to the Italian philosopher Luciano Floridi. Floridi uses the term to designate the new environment in which contemporary humans live, shaped by the profound transformations brought about by information and communication technologies (ICTs).

The most obvious way in which ICTs are transforming the world into an infosphere concerns the transition from analogue to digital and then the ever-increasing growth of the informational spaces within which we spend more and more of our time (FLORIDI 2014, p. 41).

At first glance, the infosphere refers to the entire informational environment consisting of all informational entities, their properties, interactions, processes, and mutual relations. However, this definition does not exhaust its philosophical significance. Floridi goes so far as to claim that the infosphere should be ontologically qualified:

Maximally, infosphere is a concept that can also be used as synonymous with reality, once we interpret the latter informationally. In this case, the suggestion is that what is real is informational and what is informational is real (p. 41).¹

In other words, the widespread diffusion of ICTs and their deep entanglement with virtually every aspect of our lives – from commerce to travel, from the consumption of art and culture to romantic relationships – requires, in Floridi’s view, an update of our ontological framework and the abandonment of rigid distinctions between online and offline, opting instead for the notion of *onlife*:

The digital-online world is spilling over into the analogue-offline world and merging with it. This recent phenomenon is variously known as “Ubiquitous Computing”, “Ambient Intelligence”, “The Internet of Things”, or “Web-augmented things”. I prefer to refer to it as the *onlife experience* (p. 43).

The Italian philosopher thus proposes that the physical and digital aspects of reality are now irreversibly integrated. The so-called fourth revolution – triggered by the advent, diffusion, and global development of information technologies – has the power to re-ontologize reality, that is, to bring about a profound ontological reconfiguration. The infosphere, in a sense, is the outcome of this re-ontologization. Floridi explains that the three great scientific revolutions of the past are

associated with the names of Copernicus, Darwin, and Freud. The analogy among them lies in the fact that, in different ways, each displaced humanity from the centre: from the centre of the universe (Copernicus), from the centre of nature (Darwin), and from the centre of the self (Freud). The fourth revolution, driven by information technologies, displaces the human being from the centre of the world as an intelligent agent:

We are slowly accepting the idea, emerging since Turing, that we are not Newtonian, isolated, and unique agents like Robinson Crusoe on an island. Rather, we are informational organisms (inforgs), mutually connected and part of an informational environment (infosphere), which we share with other informational agents, both natural and artificial, that process information logically and autonomously (p. 93).

Following Floridi’s perspective, then, we must move closer to the boundary between the natural and the artificial and acknowledge their deep entanglement within a unified reality. In this vein, we may agree with the well-known philosopher of mind David Chalmers:

Even regular users of virtual reality commonly distinguish between the “real world” and the unreal domain of virtual reality. If I am right, this is the wrong way to talk about it. Instead of talking about the “real world”, we should talk about the “physical world” or the “non-virtual world”. Virtual objects are real too (CHALMERS 2022, p. 187).

If the growth of information technologies has such a decisive ontological impact – as we essentially agree it does – then we must seriously consider its implications for our epistemological categories and the development of appropriate ethical frameworks. Not coincidentally, before attempting to articulate an ethics adequate to the ongoing digital revolution, Floridi proposes reconfiguring the role of philosophy as conceptual design (FLORIDI 2019). As we will explain shortly, philosophy as conceptual design is an attempt to revolutionize philosophical practice by confronting it with a new model of knowledge that does not rely on the traditional distinction between *techne* and *episteme*. This reconfiguration is necessary, Floridi argues, to construct an ethical horizon capable of guiding the digital revolution in a scenario where machines increasingly mimic human intelligence.

Within this framework, the aim of this article is to argue that the reflections of French philosopher Henri Bergson (1859-1941) on the relationship between technology and nature – despite their historical distance – still offer valuable insights for systematizing the transformations in-

duced by the digital turn within a coherent ontological framework, as well as for properly addressing the resulting ethical questions. Bergson's analyses on this subject – which we will explore in detail – touch precisely on the key points highlighted above: the tight connection between the natural and the artificial, to be understood in terms of ontological continuity, and the relationship between theory and practice.

The French philosopher seeks to understand the industrial revolution of his time through these two essential theoretical clusters, offering insights that, in our view, remain useful today as a starting point for addressing the ethical challenges of the digital revolution.

2 Tools and world: A marriage and a divorce

The framework described in the previous section, drawing on Floridi's work, rests on an important distinction. Defining technology as a “being-in-between” (the axe, for example, stands between us and the wood to be cut), the Italian philosopher distinguishes between: first-order technologies, which mediate between humans and nature; second-order technologies, which mediate between a human and another technology; and third-order technologies, which operate in relation to one another without direct human involvement. At this stage, humans observe the process from the outside and generally benefit from it (a simple example is the communication between our smartphones and Wi-Fi networks when set to auto-connect).

The infosphere, understood as an informational space, begins to emerge with third-order technologies. This scenario reveals what Floridi (2012) calls the «marriage between *physis* and *techné*» (p. 149) – a new alliance between the natural and the artificial that defines the age of the infosphere. This integration requires a specific ethics, which he refers to as “digital environmentalism”, since, in light of the transformative nature of ICT-mediated interactions, humanity has effectively moved into the infosphere – a reality in which digital interfaces are such a habitual part of the environment that we no longer even notice them (FLORIDI 2014, pp. 237-240).

Such a shift inevitably calls for critical reflection on the relationship between technology and nature. Given the immense developments of recent decades, this relationship can be interpreted at one extreme, pessimistically, as a disastrous detachment from nature, or at the other extreme, optimistically, as an unstoppable process of liberation from natural constraints and the enhancement of human power. Between these poles, which have relatively few adherents, a range of intermediate positions emerges (FLORIDI 2014, p. 49).

Avoiding both extremes, it is essential to focus on the epistemological shift accompanying the on-

to logical paradigm shift described earlier. Following Floridi's path, knowing the world is no longer about passively describing reality or prescribing its mode of existence, almost as if reality were ontologically dependent on our acts. Rather, knowledge must be conceived through a *constructionist* logic: it is acquired through the creation of the right kind of semantic artefacts – information modelling, in other words:

If genuine knowledge is knowledge of the intrinsic nature of the object known (knowledge of the ontology of the known), and if there is no innate acquisition of such a blueprint, then knowing a phenomenon, an artefact – or, in our case, gaining information and being able to account for it – means being able to produce it and reproduce it, to assemble and disassemble it, to build and dismantle it, to improve it, and answer questions about it, and all this for the right reasons. For knowledge to be possible, *mimesis* must be replaced by *poiesis* (FLORIDI 2019, p. 35).²

We could then say that philosophy does not assert truths about reality in itself, but, like other sciences that have a poietic relationship with their object (such as economics or computer science), it represents the most eminent form of conceptual design. Technologies, sciences, practices, products, and digital services are profoundly transforming reality. This is now obvious: the real questions concern *why*, *how*, and with *what* consequences, especially in relation to AI. We have thus arrived at a crucial point in our discussion. If we previously spoke of a *marriage* between technology and nature, we must now emphasize a *divorce* resulting from the development of AI. This divorce, according to Floridi, lies between the ability to complete successfully a task and the need to be intelligent to do so.

Paradoxically, artificial intelligence does not require intelligence. Floridi proposes a distinction between *complex* and *difficult* tasks, based respectively on *computational* resources and the *skills* required to complete them. When complexity is low, the task is easy; when required skill is low, it is simple.

These four variables can combine in different ways. For example, turning on a light is both easy and simple. Tying shoelaces is easy but difficult (requires motor skills); washing dishes is complex but easy; ironing a shirt is both complex and difficult (FLORIDI 2023). According to these assumptions:

playing football is simple but difficult. Chess is easy, because you can learn the rules in a few minutes, but complex. This is why AI can beat anyone at chess, but a team of androids winning the World Cup is science fiction (p. 41).

This distinction is critically important and leads to a simple yet essential conclusion: *difficulty* is the enemy of machines, *complexity* is their ally. In other words, AI excels at tasks that require significant computational resources but relatively few skills – tasks governed by constitutive rather than regulative rules. The difference is exemplified by comparing chess and soccer:

Whereas in football a prior act – let’s call it kicking a ball – is “regimented” or structured by rules that arrive after the act itself. The rules do not and cannot determine the moves of the players. Instead, they put boundaries around what moves are acceptable as “legal”. In chess, as in all board games whose rules are constitutive (draughts, Go, Monopoly, shogi, and so on), AI can use the rules to play any possible legal move that it wants to explore (p. 37).³

This is why, in the case of chess, AI can autonomously generate, in a concise way, the data related to any move in the game: given the constitutive rules, AI can “map” the range of possible positions. The fundamental point to emphasize is that machines can be highly effective in performing complex tasks governed by constitutive rules that define stable contexts. Rather than attempting to build androids that move and act like human beings (an outcome that Floridi invites us to regard as science fiction), the task ahead is to adapt the environment surrounding machines and to envelop them in increasingly optimized contexts, a process that is already underway. In short,

we are not building autonomous vehicles by putting androids into the driver’s seat, but by rethinking the whole ecosystem of vehicles plus environments. That is, we are removing the driver’s seat altogether. [...] We are transforming what lawnmowers are and what they look like, as well as adapting gardens to them. We are not building androids to push my old mower around as I do (p. 43).

If the arguments presented thus far hold true, AI simulates human intelligence: it is capable of performing tasks *as if* it were intelligent, much like a dishwasher that can wash dishes as a human would.

At this point, the challenge – following the path opened by Floridi – invokes the concept of *design*: it involves redesigning the environment by translating difficult problems into complex ones whenever possible, so as to maximize the benefit of AI’s enormous and effective (though non-intelligent) capacity for action, directing it toward what we consider good. The task of philosophy is to conceive this new human habitat by creating semantic artefacts appropriate to this purpose.

3 Henri Bergson: The relationship between technology and nature

After reconstructing Floridi’s position and the notion of “conceptual design” (we hope correctly), it is now time to introduce Bergsonian reflections on technology, which – this is our central thesis – offer valuable insights for deepening and developing what has been discussed so far. In this regard, the following words of Georges Canguilhem (2003) prove particularly useful:

Bergson is one of the rare philosophers, if not the only one, to have considered mechanical invention as a biological function, an aspect of the organization of matter by life (p. 161).⁴

This statement succinctly anticipates Bergson’s thesis. For Bergson, in a certain sense, it is not man who invents technology but technology that invents man. The fabrication of tools is the hallmark of intelligence. Yet intelligence, along with instinct, is one of the two lines of the “vital impetus” (*élan vital*), the famous Bergsonian expression by which the French philosopher designates the fundamental movement of life in its metaphysical sense: a creative, non-mechanistic force driving the evolution of life.

Tool production is immanent to this “vital impetus”. In *L’évolution créatrice*, Bergson distinguishes between the faculty of *instinct* from that of *intelligence*, viewing them as the two trajectories along which the evolution of living species has unfolded. In order to explain the evolutionary movement, the French thinker also employs a metaphor that may prove useful here: the trajectory of life, Bergson says, can be compared to

a grenade, which suddenly bursts into fragments – fragments which, being themselves grenades, in turn burst into further fragments destined to burst again, and so on for an incommensurably long time (BERGSON 1907/1959, p. 537).⁵

To summarize Bergson’s complex argument, within the vital impetus – an immanent act or tendency of life – at least two distinct trajectories can be discerned, relating on the one hand to plants and on the other to animals. Within the animal kingdom, the evolutionary impulse then orients itself along two different lines: that of instinct, which reaches its peak in insects, and that of intelligence, culminating in humans. Both instinct and intelligence are faculties that operate through instruments. However, here a crucial differentiation arises: instinct works solely through bodily organs, viewed as *organic instruments*; whereas intelligence operates through *artificial tools*. Bergson exploits here the ambivalence of the term “organ” (from Latin *organum*; Greek

ὄργανον), from whose etymology derive both the biological organ and the tool, understood in the broad sense of “artefact”. Now, although these two faculties never appear in a pure state but are always intertwined – indeed, «every concrete instinct is mixed with intelligence, just as every real intelligence is impregnated with instinct» (p. 565) – the French philosopher is sufficiently clear on the criterion by which they must be distinguished: the different modes of acting upon inert matter:

perfect instinct is the faculty to use and also to construct organic instruments; perfect intelligence is the faculty to manufacture and use inorganic instruments (p. 567).

In this perspective, intelligence is characterized by its relation to tool fabrication and use in the service of a vital strategy, understood as

the result of a biological function of producing the artificial to increase the capacity for action and the chances of evolutionary success (ZANFI 2009, p. 33).

This is a crucial point in our discussion: in light of what has been stated so far, for Bergson the production of artificial tools, as previously suggested, is not the result of a *biological lack*;⁶ it is not a compensatory strategy for an instinctual deficiency that would characterize humans in comparison to other animals, but a peculiar mode of expression of *bios* as such.

In this sense, Canguilhem (2011), in a thoroughly Bergsonian spirit, may define technology – in a certainly unusual way – as «unreflected experience, unconsciously oriented toward creation» (p. 502). Regarding the relationship between natural organs and artificial organs, it is interesting to note a certain proximity – albeit with all necessary distinctions – between Bergson’s assertions and what Karl Marx wrote in note 89 to chapter 13 of the first volume of *Das Kapital*. Significantly, in this note Marx cites the father of evolutionism, Charles Darwin, and proposes a parallel, which he does not further elaborate, between natural selection of animal organs and social selection of artificial tools:

Darwin interested us in the history of natural technology, in the formation of organs, plants and animals as instruments of production necessary for the life of plants and animals. Does not the history of the formation of the productive organs of social man, which constitute the material basis of all social organization, deserve equal attention? (MARX 1867/1959, p. 389, fn. 89).

Marx’s words help to understand Bergson’s po-

sition: the latter’s vision can be regarded as an unconscious reprise of Marxian intuition, albeit further radicalized and obviously transposed into a different theoretical framework.

If technology fills no void, if it is a “strategy” internal to life (to all life, not only human life), then one may, following Bergson’s argument, draw two important conclusions. First, technique can be understood as the foundation of anthropogenesis. Second, since it is not limited to the human domain alone but tied to the activity of the living beings *tout court*, it may be superficially interpreted as *poiesis*; yet a genuine understanding must recognize it instead as *praxis*. That is, in Aristotelian terms, as that activity which, unlike *poiesis*, has its own *entelechy* (its own end) within itself. On this point it is worth recalling Pierre-Marie Morel (2007), a scholar of Aristotle’s biological work, who notes that, for the Greek thinker,

the schema of praxis is neither properly anthropological nor biological. It is rather ontological (p. 175).

What has been asserted so far brings us back to some key issues introduced in the previous paragraph. In our view, the marriage between *physis* and *techné* – previously discussed in light of Luciano Floridi’s reflections – can be more precisely understood against the metaphysical background just outlined. If the production of technological artefacts – and here we may include digital technologies, even though Bergson was obviously unaware of them – is seamlessly integrated into the *élan vital* underlying the natural evolutionary process, then the work of re-ontologization (as discussed in our reconstruction of Floridi’s theses) is, in a sense, always already underway. Technology makes reality – not in a trivially anthropocentric sense in which human beings, through tools, shape the world as “their own” – but in the deeper sense that reality, through technology understood as the production of instruments or organs, *makes itself*.

Human beings are certainly agents in this process, but they do not initiate it; rather, they are themselves products of it. Within this theoretical horizon, any strong residual dualism between artificial instruments and nature is deconstructed, in favour of a continuous perspective – one that does not erase the different moments of the anthropotechnical process but integrates them. To the natural selection of plant and animal organs succeeds the social selection of artificial tools – and for Bergson, as we shall soon see, the latter can be consciously directed toward the expansion of human freedom. Here lie the ethical stakes.

Having now established the metaphysical framework within which Bergson situates the relationship between technology and nature, it is necessary to examine in more depth the distinction

between instinct and intelligence – only briefly addressed thus far – and the ethical implications that follow.

4 Instinct and intelligence

As previously clarified, Bergson's fundamental distinction between instinct and intelligence lies in their respective modes of operation: instinct functions solely through bodily organs, understood as organic instruments, whereas intelligence operates through artificial tools. Moreover, instinct aligns seamlessly with the continuity of the real: it is shaped according to the very form of life. In *L'évolution créatrice*, Bergson invites us to consider the interesting case of certain hymenoptera:

We know that various species of Hymenoptera that have this paralysing instinct lay their eggs in spiders, beetles or caterpillars, which, having first been subjected by the wasp to a skilful surgical operation, will go on living motionless a certain number of days, and thus provide the larvae with fresh meat. In the sting which they give to the nerve-centres of their victim, in order to destroy its power of moving without killing it, these different species of Hymenoptera take into account, so to speak, the different species of prey they respectively encounter (BERGSON 1907/1959, p. 572).

Numerous examples support this claim: certain insects, for instance, strike their prey at precisely the point required to cause paralysis, or spiders construct webs with remarkable precision, despite never having learned to do so. Bergson poses the question: how do they acquire such competence?

He suggests that instinct from within to such a degree that the two organisms – predator and prey – should no longer be considered as two separate beings, but rather as one.

Rejecting the hypothesis of the hereditary transmission of knowledge – which empirical evidence obliges us to discard – Bergson proposes that the relationship between predator and prey must be grounded in a kind of *sympathy*, informed from within the life itself (p. 593). In the case of the hymenopteran stinging its prey, it is only the external observer who perceives a separation between the two perspectives – the predator's and the prey's. In truth, the hymenopteran *is* the prey, if one may put it that way.

The domain of instinct, then, in contrast to that of intelligence, is rooted in the dimension of impersonal consciousness, of undivided continuity: the insect acts without knowing it acts. It is a mechanism perfectly aligned with itself.

Intelligence, by contrast, imposes distinctions into this continuity in the service of life, yet such distinctions are, as Bergson notes, relative to us.

He claims that intelligence is marked by a natural misunderstanding of life, whereas instinct is modelled upon life itself (p. 564). By “life”, here, we are to understand reality in its pre-predicative dimension – immediate and non-inferential. According to Bergson, the instinct of non-human animals is encompassed by intelligence (for the two tendencies are never found in a pure state), which frames it but remains peripheral; human intelligence, on the other hand, is itself surrounded by instinct.

If reality as a whole consists in the mutual action and passion of its constituent elements – what Bergson in the first chapter of his *Matière et mémoire* refers to as the original ontological background or *aggregate of images*– then, as we ascend the scale of complexity among living organisms, the reciprocal interaction of elements encounters consciousness, and with it the division between subject and object. Hydrochloric acid invariably reacts in the same way upon contact with calcium carbonate, and the plant, in turn, unfailingly absorbs nutrients from the soil when conditions permit.

In organisms endowed with a nervous system, however, the more complex the system, the greater the indeterminacy in its motor responses. In such complex organisms (from the simplest animals to the so-called higher ones), the reception of a stimulus does not elicit an automatic reaction, as it does in inorganic or vegetative matter. The organism instead selects its response with increasing degrees of variability, correlated with its structural complexity. On what basis does it choose? According to Bergson, the criterion is strictly pragmatic: «the objects which surround my body reflect its possible action upon them» (1896/1959, p. 274). In other words, intelligence delineates within the undivided continuity of reality the contours of our virtual actions – and, thereby, the contours of objects themselves. Intelligence separates what is originally unified:

But it is above all necessary, for our present manipulation, to regard the real object in hand, or the real elements into which we have resolved it, as provisionally final, and to treat them as so many units. To this possibility of decomposing matter as much as we please, and in any way we please, we allude when we speak of the continuity of material extension ; but this continuity, as we see it, is nothing else but our ability, an ability that matter allows to us to choose the mode of discontinuity we shall find in it. It is always, in fact, the mode of discontinuity once chosen that appears to us as the actually real one and that which fixes our attention, just because it rules our action (1907/1959, p. 578).

Discontinuity, then, appears to intelligence as a property of reality itself. In fact, intelligence stands outside the undivided continuity of reality,

which Bergson terms *duration*. Yet this departure constitutes the *felix culpa* that enables intelligence to exert control over reality through the use of concepts, signs, and language. This very dominion, however, entails a distancing from the immediate participation in life.

In light of these clarifications – necessarily condensed – regarding the distinction between instinct and intelligence, we may return to their respective roles in relation to technology. As previously noted, Bergson defines instinct as the faculty for employing and constructing organic instruments, while intelligence is the faculty for utilizing and manufacturing inorganic instruments. The insect is its tools; the human being has them – this is the essential distinction.

From this perspective, Bergson contends that if we could set aside our species pride, we might not define ourselves as *Homo sapiens*, but rather as *Homo faber*. Ultimately, intelligence is the *faculty for fabricating artificial objects – particularly tools designed to create other tools – and for indefinitely varying the fabrication process*. It is not intelligence that gives rise to technology, but rather technology that gives rise to intelligence.

Unlike the highly specialized instrument produced by instinct, the inorganic tool fabricated by intelligence is open to modification, enhancement, and innovation. The process of reciprocal influence thus unfolds along an open-ended and unpredictable trajectory. Such tools, by calling their maker to perform new functions, retroact upon the very nature of the organism, endowing it with a more complex organization. The non-human animal moves in a restricted circle, since its use of tools is very limited – almost nil. The human, on the other hand, inhabits an open loop, by virtue of the progressive refinement of technological tools (1907/1959, pp. 568-569).

5 The liberation of machines

Bergson's thought persistently reintroduces a series of dualities: qualitative inner time and spatialized time, matter and memory, evolution and creation, closed society and open society.⁷

The distinction between the “closed society” and the “open society” – which Bergson introduces into philosophy prior to Karl Popper – is itself tied to the contrast between static morality and religion, on the one hand, and dynamic morality and religion, on the other. These two lines of development are the products, respectively, of “social pressure” and the “impulse of love”. Yet, as already noted, Bergson takes care to inform us that these dualities are ultimately absorbed into unity, since

social pressure and the impulse of love are but two complementary manifestations of life,

which has normally aimed, in broad terms, to preserve the social form that has characterized the human species from the beginning (BERGSON 1932/1959, p. 1097).

We have clarified the framework of Bergson's arguments. Now we must fill it with content. The closed society is, according to Bergson,

one in which the members relate to one another while remaining indifferent to the rest of humanity, ever ready to attack or defend themselves, and thus compelled to maintain a combative stance. Such is society as it emerges from the hands of nature (p. 1225).

The closed society is led by strict moral pressures that confine each individual to a determinate role within the social hierarchy. It is dominated by *habit*, with a deep sense of self-preservation. While individual human habits are acquired through education, the habit of acquiring habits – which is found in all societies – is, by contrast, innate. The society willed by nature thus resembles that of the hymenoptera – among the most advanced within the animal kingdom along the evolutionary line complementary to our own, that of invertebrates – characterized by the predominance of instinct (as discussed in the previous section). Another image might help illustrate this point. The members of a civic community:

Habit, served by intelligence and imagination, introduces among them a discipline resembling, in the interdependence it establishes between separate individuals, the unity of an organism of anastomotic cells. Everything, yet again, conspires to make social order an imitation of the order observed in nature. It is evident that each of us, thinking of himself alone, feels at liberty to follow his bent, his desire or his fancy, and not consider his fellowmen. But this inclination has no sooner taken shape than it comes up against a force composed of the accumulation of all social forces: unlike individual motives, each pulling its own way, this force would result in an order not without analogy to that of natural phenomena (p. 1112).

Intelligence has liberated us from the automatism observable in other species; nevertheless, nature has imposed upon us the necessity of living in society. From this imposition stem both static morality and static religion: at a certain level, morality and religion are thus functions of biology and sociology.

In other words, the morality of obligation and static religion sustain the instinct for collective cohesion and inhibit intelligence from weakening social bonds by encouraging group egoism. In this

respect, religion is

a defensive reaction of nature against what might be disheartening for the individual and disintegrative for society in the exercise of intelligence (p. 1239).

From this point of view, therefore, Bergson's genealogy of morality and religion may be compared to Marxist or Nietzschean genealogy: the ethical-religious "superstructure" would be the result of a structure that we can generically refer to here as "sociological".

Now, the closed society – characterized by static morality and religion – is not a final condition: humankind can move toward the open society, wherein the imperative of social self-preservation (of one's own group or nation) is transcended in favour of a principled embrace of all humanity. This transition cannot occur gradually, by successive expansion from family to humanity through concentric circles; rather, it must take place, as Bergson explains, via a *saltus*. Between the two societies there exists a *difference in kind*: closed societies defend themselves against others by means of a primitive instinct. There is thus a possible alternative to the morality of obligation: a morality grounded in the appeal to unrestricted love for all of humanity.

This appeal is no longer impersonal (as in the morality of the closed society) but personal. This morality is not transmitted through abstract, formal moral imperatives, but through concrete figures:

At all times, exceptional individuals have arisen in whom this morality was incarnated. Before the saints of Christianity, humanity had already known the sages of Greece, the prophets of Israel, the Arahants of Buddhism, and others besides. It is to them that men have always turned for that complete morality which we had best call absolute morality. [...] Whereas the first morality is all the more pure and perfect in proportion as it is reducible to impersonal formulas, the second, in order to be must fully itself, must be incarnate in a privileged personality who becomes an example (p. 1049).⁸

The dynamic religion corresponding to the open society is likewise rooted in aspiration, which in this case arises from the mystical experience of divine love and the origin of life. Just as the closed morality is justified by reference to the vital needs of the species, so too the morality of aspiration refers back to life – now understood not as species, but as a metaphysical principle (ZANFI 2009, p. 87). On the basis of the foregoing, we are entitled to claim that if the open society surpasses the closed society insofar as it is directly connected to the *élan vital*,

and if this *élan vital* finds its distinctive expression in technical activity, then the production of tools constitutes a fundamental element in both the organization of the world and the development of humanity.

Put differently: ontology and ethics are intimately intertwined, to the point that one might speak, in our view, of an onto-ethics. The production and use of tools re-ontologize the world, and this dynamic, by its very nature, entails immediate ethical implications. What has previously been stated now reemerges within a theoretical framework capable of integrating – without conflating or fragmenting – nature, technology, and ethics, each within its proper domain.

6 The soul and the machine

According to Bergson, mechanism is not, in principle, an obstacle to genuine human evolution, but rather constitutes a vital movement to be embraced. Thanks to mechanics, humanity may «stand erect to gaze at the heavens» (1932/1959, p. 1258), thereby realizing «even on our refractory planet, the essential function of the universe, which is a machine for the making of gods» (p. 1263). The use of tools facilitated the emergence of consciousness in *Homo faber*, just as one day «an immense system of machines» (p. 1201) might ideally lead to a level of human emancipation never seen before – a liberation from mechanized activities that could, in fact, be entrusted to machines.

Indeed, Bergson criticizes the overly radical critiques of mechanization prevalent in his time. The problem, he notes, is not mechanization itself, but rather its insufficient commitment to alleviating the burdensome labour of humanity:

But if the machine provides the worker with more hours of rest, and if the worker uses this additional free time for something other than the so-called amusement made available to all by poorly directed industrialism (p. 1255).

In other words, Bergson asks how such a massive transformation – brought about by technologies proliferating at the turn of the 19th to 20th century – can be properly managed, given that the outcome has often been problematic: mechanics, due to a misstep in direction, has been launched down a path whose end lies not in the liberation of all, but in excessive comfort and luxury for a select few (p. 1257). The philosopher presents the issue in the following terms, which are worth quoting in full due to their significance:

Nature, in endowing us with an intelligence that is essentially creative, had thus prepared for us a certain expansion. But machines that

run on oil, coal, or “white coal” and that convert into motion potential energies stored up for millions of years, have actually imparted to our organism an extension so vastly and endowed it with such formidable power – so disproportionate to its original dimensions – that surely none of this was foreseen in the structural plan of our species; [...] Now, within this enormously enlarged body, the soul remains what it was, too small to fill it, too weak to guide it. Hence the gap between the two. Hence the formidable social, political, and international problems (p. 1257).

Bergson speaks of a disproportion between the “soul” and the “body of machines”. However, it would be superficial to read these pages and conclude that the French philosopher is merely advocating for an ethical intervention from outside technological development to correct its course. As discussed earlier, the artificial instrument is part of natural development – it has the potential to open the way toward higher degrees of freedom. Such freedom is now called upon to choose its own best direction. The challenge, then, is to *design* the world so that machines enhance the development of life and liberty by taking over automated labour.

For Bergson, matter is essentially “dormant consciousness”, in which action is nothing more than automation (a sort of action without an agent).⁹ The artificial tool replicates this condition (now imposed by humans rather than given by nature): the spirit, freed from a function now outsourced to the artefact, may turn toward new developments. Once codified and mastered, developments can themselves be externalized in a new instrumental apparatus, and so on.

It is no coincidence that Bergson emphasizes the “body” of machines, for he intuits that the primary issue is an “engineering” one. The enlarged body that «awaits a supplement of soul» (p. 1258) – which today we might identify with the now-global network of digital tools – must be shaped in accordance with the freedom (and, we may add, the good) that humanity seeks. Achieving this goal implicitly presupposes the very disjunction between intelligence and the capacity for goal-directed action that, as noted earlier with reference to Luciano Floridi, characterizes the current age of the infosphere. Certainly, methodological rigor precludes us from applying contemporary categories *sic et simpliciter* to past philosophical contexts; however, this comparison seems nevertheless legitimate.

As Bergson explained in the cited passage, the energy of machines – their capacity for effective action – leaves natural intelligence lagging behind, and yet it is precisely this enormous capacity for labour, this potential energy, that humanity must

harness to attempt a further evolutionary leap. Mechanics thus becomes an essential evolutionary referent for humanity.

In light of this, we can now affirm – with and beyond Bergson – that the foundation of an ethics of technology, and more specifically of artificial intelligence, can lie in the recognition of this essential starting point: *the capacity for effective action is not exclusively human*. Machines constitute a vast reservoir of power capable of operating toward goals, but they are not subjects. They are, in a sense, *minds without subjectivity*. The precise human responsibility lies in guiding technological development while being aware that this process implicates both ontology and ethics, today more deeply intertwined than they were in Bergson’s time. What is needed is thinking in terms of *ontoethics*.

7 Conclusions: Toward an ontoethics

At the outset of this contribution, drawing on the analyses of Luciano Floridi, we observed how the epochal transformation brought about by the digital revolution has entailed an ontological shift, encapsulated in the term *infosphere*, which necessarily bears ethical implications. This shift amounts to a genuine *re-ontologization*: digital tools do not merely bring about an engineering reconfiguration of our world, but alter its intrinsic nature, thereby reuniting *techne* and *physis*.

Naturally, the transition to this new ontological status also involves a *re-epistemologization* within a *constructionist* framework (which should not be confused with a *constructivist one*), that is a framework which reconnects knowing with doing: in the perspective we are following, knowing means to elaborate semantic constructs appropriate to the data at hand. Hence the need to redefine the task of philosophy in terms of *conceptual design*. If design aims to plan objects to be serially manufactured according to aesthetically valid forms in relation to their function, then philosophy must support the transformation of the existent into interactions capable of providing substantial benefit within the digital ecosystem shaped by ICTs, exploiting the disjunction between intelligence and the capacity to act effectively. ICTs, as Floridi explains, envelop the world partly due to their ability to simulate human intelligence, performing numerous operations in place of human operators with computational capabilities far beyond those of the natural mind.

In this complex horizon, we have argued that Henri Bergson’s reflections on the relationship between nature and technology represent an underutilized theoretical resource for addressing these issues. Primarily, the French philosopher’s ontology enables us to interpret the relationship between nature and technique in fully continuous terms: the social selection of artificial tools is but an extension of the natural selection of animal organs. Both are

internal moments of the same vital impetus (*élan vital*). On this basis, we can affirm that artificial tools are not extraneous additions to an uncontaminated original nature, but rather genuine articulations of nature expressed through *homo faber*. Thus, the ontological plane has always been, in a sense, dependent on technological artefacts. Bergson, in depicting the landscape of late industrialism incubating the First World War, clearly perceived that the civilization of machines would not simply be the old world augmented by speed and power, but a qualitatively different world.

For all these reasons, with Bergson and going beyond him, we have proposed the notion of *onto-ethics*: any ethical discourse must take into account that praxis is immediately intertwined with the ontological level. This seems to us a crucial insight – one that can serve as a fruitful premise for any further ethical reflection in the digital age, in which the decisive feedback of technological development on the constitution of humanity and its world is more evident than ever. Moreover, as we have seen, Bergson explicitly reflects on the role of machines and the appropriate ethical approach to what he calls “mechanism”. For the French philosopher, as noted earlier, the goal toward which technological development should be oriented is the reduction of automated labour for the vast majority of human beings. This is precisely the direction envisioned by Luciano Floridi:

Much like inventions such as the washing machine which liberated people (particularly women) from the drudgery of domestic work, the “smart” automation of other mundane aspects of life may free up yet more time for cultural, intellectual, and social pursuit, and more interesting and rewarding work. More AI can easily mean more human life spent more intelligently (2023, pp. 170-171).

To reach this goal, however, Bergson maintains that we must eliminate the disproportion between the gigantic body of machines and the “soul”. In our terms: how to align the development of ICTs – this sort of mind without a subject – with human well-being? How to design the “immense body of machines” so as to derive the greatest possible benefits from it? This issue arises because, as Bergson observed, for every need it satisfies, the artificial instrument (unlike the biological organ) generates a new need. It opens up the organism and society as a whole to an indefinite field of possible developments.

Therefore, in the era of the infosphere – characterized, as argued above, by third-order technologies interacting among themselves without specific human intervention – Bergson’s framing of the problem, as outlined here in its essential features, still appears promising for appropriately ad-

ressing the ethical challenges posed by the digital revolution.

Notes

¹ The equivalence between information and reality, as Floridi himself acknowledges, recalls the well-known Hegelian dictum “*Was wirklich ist, ist vernünftig, und was vernünftig ist, ist wirklich*”, which appears at the beginning of his *Grundlinien der Philosophie des Rechts* (1821). This analogy, however, must be approached with caution. In Hegel’s philosophy, the term *Wirklichkeit* does not simply refer to what exists in an empirical or factual sense (for which the term *Realität* is used, corresponding to “reality” in English), but rather to that which is fully actualized in accordance with rationality and inner necessity – that is, to what Hegel calls “actuality”.

² Floridi is careful to distinguish “constructionism” (the position he advocates) from “constructivism”, which he finds too radical. Our knowledge, the Italian philosopher explains, is neither mere ascertainment of data nor total construction of the world, neither (naive) realism nor idealism. Knowledge process neither describes nor prescribes but inscribes a world. On this issue, cf. FLORIDI 2011.

³ Similar distinctions, albeit with different nuances or emphases, can be found in other authors. For example cf. GIGERENZER 2022.

⁴ All translations from French, Italian or German to English are mine.

⁵ H. BERGSON, *Œuvres*, Édition du Centenaire, textes annotés par André Robinet, introduction par Henri Gouhier, Presses universitaires de France, Paris 1959, p. 537. For all of Bergson’s citations, I will refer to this fundamental edition; all translations from French to English are mine.

⁶ In this way, Bergson distances himself from one of the most prevalent views of technique in Western philosophy, describing its genesis precisely as related to instinctual deficiency. For a classical voice on this perspective cf. GEHLEN 1957.

⁷ The treatment of these dualities roughly follows the course of Bergson’s major works: qualitative internal time and spatialized time in *Essay on the immediate data of consciousness* (1889); matter and memory in *Matière et mémoire. Essai sur la relation du corps à l’esprit* (1896); evolution and creation in *L’évolution créatrice* (1907); closed society and open society in *Le deux sources de la morale et de la religion* (1932).

⁸ In light of these considerations, Bergson may be fruitfully interpreted through the lens of moral exemplarism. For a direct comparison between moral exemplarism and Bergson cf. RUSSO 2018.

⁹ On this concept, see Bergson’s *Matière et mémoire*, chap. I, where the foundational aspects are introduced.

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