DIGITAL ONTOLOGY: DEFINING BEING IN THE ERA OF DATA AND ALGORITHMS

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ABSTRACT

This contribution proposes an in-depth philosophical inquiry into the nature of reality in the digital age, moving beyond a purely instrumental view of innovation. It argues that digital transformation represents a true ontological redefinition affecting the fundamental structures of human existence and perception.

At the core of this reflection lies the "ontological turn," where the digital shifts from an external set of tools to an existential environment—the infosphere—in which human beings are redefined as informational nodes within a network. Through datification, data rises to a performative ontological substance that actively models reality according to predictive logics. Finally, the epistemological analysis highlights the risks of "algorithmic reason," which replaces causality with statistical correlation, underscoring the urgent need for a philosophy of the digital to reclaim what escapes the measure of the database

KEYWORDS

Digital ontology; datafication; algorithmic identity; algorithmic reason; technodiversity.

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1. Introduction: The Necessity of a Philosophy of the Digital Beyond Technique

The emergence of digitalization cannot be interpreted simply as a succession of technological innovations aimed at optimizing industrial or communicative processes. We are facing a profound mutation that affects the very structures of existence, making it necessary to have a philosophical reflection that goes beyond a purely technical or instrumental approach. The philosophy of the digital stands today as the only tool capable of deciphering a reality in which being and data tend to overlap until they coincide.

In this analysis, we aim to explore the necessity of such reflection, analyzing digital transformation not as an increase in efficiency, but as a redefinition of reality, and describing that ontological turn that shifts the focus from technological action to technological essence. Contemporaneity is going through a transitional phase that can no longer be described through the lenses of technological innovation or the updating of productive apparatuses.

The need for a philosophy of the digital emerges at the exact moment we realize that traditional metaphysical categories — subject, object, space, time, truth — are inadequate to describe daily experience mediated by bits. While technique deals with the "how" of making things work, philosophy must deal with "why" our perception of reality has changed radically. We are not facing a mere evolution of tools, but a reconfiguration of the *logos*.

If, as Martin Heidegger maintained, the essence of technique is not anything technical, then the essence of the digital is not anything numerical or computational. It is a pre-understanding of the world that transforms everything we encounter into a reserve of information ready for use. In this context, philosophy is not a speculative luxury, but a primary epistemological requirement to prevent the human being from becoming the only opaque element in a world of algorithmic transparency.

The first fundamental construct to analyze is that of total mediation. In digital transformation, technology does not interpose itself between us and the world like a pair of glasses; rather, it becomes the very environment of vision. This leads to a necessary critique of instrumental reason: if we continue to view the digital merely as a set of tools, we fail to understand that it has become an atmospheric condition. The philosophy of the digital, therefore, serves to map this new territory, where data is no longer an abstraction but the substance of which our social and political presence is made. The public debate on digital transformation has long been dominated by a narrative centered on efficiency, speed, and productivity. However, limiting the understanding of the digital to its functional dimension means ignoring the qualitative impact it exerts on human perception and the structure of the world. Technique, historically understood as a means to an end, has undergone a metamorphosis that makes it today the very environment in which life unfolds. It is no longer a matter of tools that we use, but of an existential condition that we inhabit. This perspective calls for the necessity of a philosophy that is not just an ethics of the digital—meaning a judgment on the correct use of tools—but an inquiry into the very nature of our experience.

Contemporary reality is defined by what Luciano Floridi calls the infosphere, an informational environment in which the distinction between online and offline life is now obsolete. Digital transformation is therefore not a matter of software implementation, but a matter of redefining reality. When every action we take—from consumption to socialization—is mediated and recorded in the form of data, reality itself ceases to be perceived as a collection of physical objects and becomes a constant flow of information. In this context, philosophy must intervene to prevent the human being from remaining a mere passive

spectator of a process that is rewriting their identity. The necessity for a philosophy of the digital thus lies in the urgency of understanding how binary code is becoming the new grammar of the world.

2. Digital Transformation as a Redefinition of Reality

Beyond mere efficiency, digital transformation acts as a powerful catalyst for meaning. If we analyze the concept of efficiency, we realize that it presupposes a world already given in which technology intervenes to eliminate friction. However, digitalization creates new worlds. Consider the redefinition of the concepts of space and time: digital synchronicity annuls physical distances, creating a virtual spatiality that is real in its social and psychological effects.

Reality is redefined because the criteria by which we judge and inhabit it change radically. We no longer evaluate a company solely for its physical products, but for its capacity to manage and interpret data. We no longer evaluate a relationship only by physical presence, but by the continuity of digital interaction.

This redefinition also affects the nature of truth. In an era dominated by algorithms and data, truth tends to coincide with what is digitally measurable and verifiable. Anything that escapes computer capture risks becoming irrelevant or non-existent from an ontological point of view.

Digital transformation, therefore, operates a radical selection on reality, highlighting certain aspects and concealing others. The philosophy of the digital must be able to denounce this process of reduction, questioning what is lost in the transition from analog to digital. As Byung-Chul Han suggests, digitalization leads to an absolute transparency that, instead of illuminating reality, risks emptying it of its alterity and mystery, reducing the human being to a data point among data within a system of consumption and control.

The concept of Digital Transformation is often reduced, in corporate and engineering language, to a matter of operational efficiency. However, a deep philosophical reading reveals that efficiency is merely the epiphenomenon of a much more radical transformation: the redefinition of reality. When a process is digitized, it is not simply sped up; it is ontologically translated. This translation implies the transition from an analog reality, characterized by the continuity and density of experience, to a digital reality, defined by discreteness and computability. In this transition, the construct of reality shifts from matter to information. As suggested by Luciano Floridi, we have moved from an ontology based on things to an ontology based on informational relations. Within this framework, an object exists to the extent that it is connected and exchanges data within an infosphere. Efficiency thus becomes an ontological value: that which is not efficient, that which presents friction—such as silence, waiting, or human unpredictability—is perceived as a system error or, worse, as non-being. Digital Transformation redefines reality by eliminating the alterity of the object. If everything is translatable into code, then nothing is foreign anymore. This process of algorithmic digestion of reality leads to what Byung-Chul Han defines as the disappearance of rituals and the resistance of things. Reality is no longer that which we collide against, but that which flows fluidly through our screens. The redefinition of reality also acts on a temporal level: digital time is a perpetual present, a flow of data that denies historical narrative in favor of the instantaneousness of feedback. Here, the construct of data performativity enters: the data does not limit itself to describing a state of the world, but acts upon the world to conform it to the predictive model that generated it.

3. The Ontological Turn: From Technological Action to the Being of Technology

To fully understand this mutation, it is necessary to perform what we call the ontological turn. This theoretical shift implies abandoning the pragmatic question of what technology *does* to focus on the metaphysical question of what technology *is*. Traditionally, technology has been seen as an extension of human capabilities: the hammer extends the arm, the book extends memory. Today, however, digital technology acts as a structure that pre-configures the very possibility of experience. It is not an extension, but an ontological framework. Asking what technology *is* means recognizing that it has become the new *logos*, the underlying logic that orders and gives meaning to the universe.

The ontological turn allows us to analyze how our way of being changes. The human being in the age of data is no longer an autonomous subject observing a world of objects, but a node within a network. Our subjectivity is constantly modeled by algorithmic flows. As emphasized by philosophers like Yuk Hui, we must question the concept of technodiversity, meaning the possibility of thinking about technological being not as a Western monolith driven solely by efficiency, but as a field of differentiated ontological possibilities. If technology is what we are, then digital transformation is a process of technological autopoiesis in which humanity redefines itself through its own artifacts.

The theoretical heart of this reflection lies in the so-called ontological turn. Traditionally, the philosophy of technology has focused on the construct of technical action: what does technology do to humans?. How does work change?. What are the ethical risks?. The ontological turn flips this perspective, asking instead: what is technology in its relationship with being?. Moving from "what it does" to "what it is" means recognizing that digital technology has become a metaphysical structure. It is no longer a set of apparatuses that

humans possess, but a way of revealing reality. If classical ontology sought being in substance, digital ontology finds it in the signal and the pattern. This turn implies a redefinition of our way of being. Humans are no longer the sovereign subjects who manipulate passive objects, but become informational entities among others themselves. The construct of algorithmic identity emerges here with force: we are what our data say about us. In this scenario, the distinction between natural and artificial loses meaning, giving way to the construct of onlife, where our existence is an inseparable hybrid of biological impulses and computational processes. Technology is no longer outside of us; it is the internal structure of our consciousness. The ontological turn forces us to confront the idea that the human being is becoming an appendix to the information system, an "inforg" whose properties depend entirely on the quality of their connection to the network.

4. Data as the New Ontological Substance

Let us address the metaphysical core of digital transformation: the transition of data from a simple representation to the very substance of reality. To understand this shift, it is necessary to analyze the process leading from the concrete to the informational through the practice of datafication. This construct does not merely indicate the collection of information about an object, but its ontological reduction into digital entities.

When a physical body, an emotion, or an industrial process is datafied, it undergoes a metamorphosis: its material density is translated into a series of discrete and computable signals. This is not a neutral act. As argued by Luciano Floridi, our reality is transforming into an infosphere where being is no longer defined by its persistence in physical space and time, but by its capacity to be processed as information. In this sense, datafication operates a subtraction of

matter which, paradoxically, increases the object's power to act within the digital system, making it omnipresent and immediately manipulable.

The transition from the concrete to the informational implies that data becomes the world's new raw material. If in classical metaphysics substance was that which remains beneath the change of accidents, in the era of algorithms, substance is the informational pattern. Reality is thus reduced to a set of binary values that can be reassembled into infinite configurations. This leads us to consider the construct of flat ontology, a concept derived from the speculative realism of thinkers such as Manuel DeLanda and Levi Bryant and applied with extreme effectiveness to digital networks.

In a flat ontology, the traditional metaphysical hierarchy that placed the human being at the pinnacle of creation disappears. Within a database or a network graph, there is no predefined ontological distinction between a human user, an IoT sensor, a machine learning algorithm, or a log file. All these actors are considered machines or objects interacting on the same plane of reality. The application of flat ontology to digital networks transforms our understanding of digital transformation.

It suggests that power and agency no longer reside exclusively within the human subject, but are distributed throughout the entire network. In a digital ecosystem, a weather datum carries the same ontological weight as a financial transaction if both trigger an algorithmic response. This ontological parity between human and non-human is what allows for the scalability of digital systems, but it is also what generates a sense of alienation: the human being is treated by the system as a set of parameters, equated to any other component of the network. Informational reality does not recognize the depth of the soul or the interiority of the subject, but only the connections and intensities of data flows.

Another pillar is the construct of the data as a performative act. It is essential to correct the common epistemological error that views data as a passive mirror of reality. Data does not merely describe reality; it actively contributes to creating it. Here we connect to Austin's speech act theory, translating it into the computing domain: databases and classifications are performative instruments.

When a database architect defines a category or a field limit, they are tracing the boundaries of what can exist within that system. If a database for refugee management provides only two options for gender, the complexity of human identity is compressed or erased by the act of registration. In the digital system, that which is not classified simply is not.

Data also creates reality through algorithmic feedback loops. A sales datum does not just record a past purchase; it instructs the recommendation algorithm to show specific products, thereby influencing the user's future desires and behavior. In this way, data makes the world it claims to measure.

This performative power is particularly evident in social and occupational classifications. If an algorithm classifies a candidate as unproductive based on historical data, that classification becomes an ontological reality for the candidate, precluding real job opportunities. The database is not a library of facts, but a reality engine that shapes the field of the possible.

5. Algorithms and Epistemology: Knowing Being

We shall now investigate the nature of the processor of this substance: the algorithm. Knowing being in the age of data means confronting a form of knowledge that is no longer based on human logical deduction or direct empirical observation, but on the mediation of computational machines operating at non-human speeds and scales. The first fundamental construct to address is the paradox of transparency, which manifests through the metaphor

of the black box. While digitalization is marketed as a process that makes the world transparent, measurable, and therefore knowable, the deep algorithmic logic remains inherently opaque. As highlighted by Frank Pasquale, we live in a reality governed by algorithmic decisions whose criteria of judgment are often inaccessible not only to the average citizen, but sometimes even to the programmers themselves. This opacity creates an epistemological fracture: we know the outputs, but not the underlying logic that defines the truth of that result. Digital being, therefore, appears to us as a matter of fact whose rational genealogy we cannot reconstruct.

This condition leads us to reflect on Algorithmic Reason. It is an epistemological construct that privileges correlation over causality. Within a Big Data regime, the algorithm does not ask *why* a phenomenon occurs, but rather detects *that* it occurs with a certain statistical frequency. This approach operates an ontological reduction of knowledge: truth is reduced to probability. While classical ontology sought essences and primary causes, algorithmic epistemology settles for patterns.

The risk, lucidly described by Byung-Chul Han, is the end of thought understood as critical reflection and its replacement by calculation. When knowing simply means predicting behavior based on historical series, being is deprived of its possibility of transcendence, surprise, or radical change. Being is known only as a repetition of itself.

The link between data and action tightens further in the concept of algorithmic performativity. The algorithm is not a passive observer; it intervenes in the reality it claims to measure, creating self-fulfilling loops. If a credit algorithm defines an individual as high-risk based on statistical criteria, that individual will

be denied a loan, thus confirming their condition of economic marginality. In this case, the data has created the truth it claimed to have merely detected. Here, the construct of truth shifts from correspondence to production.

This dynamic also affects our identity. The construct of algorithmic subjectivity suggests that our digital self is an entity built through filtering and recommendation processes. We know ourselves through what algorithms reflect back to us: our tastes are shaped by Spotify or Netflix suggestions, and our political opinions are reinforced by social media echo chambers. Algorithmic epistemology produces a being-for-calculation, a subject whose internal reality is constantly monitored and externalized in the form of measurable preferences. In this sense, the algorithm acts as an ontological microscope that does not merely magnify the details of our behavior, but crystallizes its essence into rigid profiles. The need for a philosophy of the digital becomes urgent in the face of the ontological violence carried out by algorithmic reductionism. The abstraction process necessary for computation must inevitably discard everything that cannot be structured. The nuances of human experience, the ambiguity of language, the irrationality of feelings, and deep cultural context are often the remains that do not pass through the mesh of the algorithmic strainer. What remains is an informational skeleton of being. If knowledge of the world is reduced to what is computable, being itself risks being perceived as a set of optimizable variables.

6. Identity, Subjectivity, and Algorithmic Becoming

In this module, we take our investigation into the territory of subjectivity, exploring how digital transformation penetrates the very essence of the self. The first construct to analyze is that of the post-human subject. From the perspective of digital transformation, the human is no longer conceivable as an isolated island of consciousness, but as a porous and distributed entity. The

concept of identity shifts from the stability of the soul or the body to the fluidity of the profile. Here, the construct of algorithmic identity emerges—that representation of ourselves that platforms construct through our digital remains. This identity is not a passive reflection, but an active entity that interacts with the world on our behalf. As argued by Rosi Braidotti, the post-human is an assemblage of flesh and code, where subjectivity is the result of a continuous negotiation between biological impulses and data flows.

This condition leads us to the phenomenon of algorithmic becoming. This construct describes the process by which individuals begin to conform their behavior to the expectations and logics of digital systems. It is not just us using algorithms; it is the algorithms using us to refine their predictive models. A YouTube content creator who modifies their communication style to please the recommendation algorithm, or a gig economy worker who accelerates their pace to maintain a high rating, are examples of how human agency is re-oriented toward computational ends. In this scenario, the human being undergoes an ontological mutation: they stop acting based on subjective goals and begin to operate as a function of a broader system. The dated individual or “dividual”, citing Gilles Deleuze, is decomposed into a series of informational segments: banking data, health data, navigation data, and biometric data. These segments can be aggregated and re-aggregated in infinite ways by power systems, without the presence of the whole subject ever being necessary. The ontological impact is profound: we are no longer "one," but a collection of spectral profiles inhabiting various databases. This fragmentation of the Self makes the exercise of responsibility and resistance difficult, as power no longer strikes the person in their entirety but acts upon their informational fragments.

The link between subjectivity and technology is also expressed through the concept of algorithmic solicitation. Algorithms do not limit themselves to observing us; they constantly solicit us to produce new data through

notifications, suggestions, and interfaces designed to create dependency. This creates a regime of perpetual presence where being is defined by one's incessant activity on the network. As suggested by Jonathan Crary, digital capitalism aims for the cancellation of sleep and dead time, since a human being who does not produce data is a being who, for the system, has no value. Becoming algorithmic is therefore also a process of total absorption of vital time into the machine of informational production.

The final ontological tension is that between agency and traceability. In the digital transformation, every action produces a digital shadow. This shadow ends up preceding the action itself through the construct of predictivity. If an algorithm can predict my next choice with a high degree of accuracy, what value does my freedom have in making it? Here, the conceptual framework must confront the risk of a technological determinism that empties being of its spontaneity. Being human in 2026 means navigating this narrow space between one's own will and the "gentle nudge" of predictive algorithms.

7. Toward an Ontological Agitation: Data Resistance, Data Poisoning, and Algorithmic Disobedience

If datification acts as a form of ontological violence that reduces the density and complexity of experience to the rigid meshes of calculation, the post-human subject nevertheless remains unconfined to the status of a passive victim or a mere spectator within the informational capture process. Alongside the dynamics of algorithmic subjection and performativity, a constellation of political and epistemological resistance practices emerges, taking the form of data resistance, algorithmic disobedience, and algorithmic opacity. These counter-moves do not aim at a futile destruction of the technological infrastructure; rather, they seek to sabotage the performative logic of data from

within, exploiting the structural faults and opacities of the system to reclaim a space of incalculability and unveil the radical contingency of power classifications.

Within this counter-mobilization scenario, data poisoning (or intentional data pollution) stands out as a true device of "ontological self-defense." Through the deliberate introduction of noise, contradictory signals, or dissonant digital trajectories, users and hacker-activist communities corrupt the training cycle of predictive models. As analyzed by Galloway and Thacker (2007) in their exploration of network protocols and tactical media, these actions operate as "exploits"—tactics that turn the rules of a system against itself to disrupt centralized control. Poisoning the informational substance means interrupting the algorithm's totalitarian claim to establish unappealable correlations, jamming that feedback loop which crystallizes past traces into an irrevocable destiny.

In continuity with these tactics lie the strategies of algorithmic opacity and data obfuscation. As theorized by Brunton and Nissenbaum (2015), obfuscation—the deliberate deployment of ambiguous, confusing, or misleading data—serves as a crucial protective tool for privacy and protest against pervasive digital surveillance. Here, the pursuit of a protective opacity—recalling Édouard Glissant's philosophical intuition on the right to the inexpressible—turns into a political tool of emancipation to escape the panoptic gaze and the coercive transparency imposed by digital capitalism. Through biometric masking, profiling noise, the use of ciphered grammars, and the proliferation of synthetic identities, the subject does not reject the network; rather, they subvert its operational logic, reappropriating what exceeds the measure, discreteness, and statistical estimation of the database.

Furthermore, engaging with Bruno Latour's (2013) framework on alternative modes of existence and non-modern counter-assemblages, algorithmic resistance attests that the infosphere does not constitute an unmodifiable monolith, but an asymmetrical field of forces in which human agency preserves the capacity to reactivate its own transcendence. By turning errors into weapons and noise into politics, the subject converts the cage of bits into a space of permanent ontological insubordination.

8. Conclusion: Building a Conceptual Framework for the Ontological Impact of Data

The ultimate goal of this reflection is the construction of a solid conceptual framework to analyze the ontological impact of data. Data is not a neutral representation of reality, but a performative act that contributes to its creation. When we convert an emotion, a preference, or a movement into data, we are operating an ontological transformation: we are giving a measurable form to something that, by its nature, would be fluid and subjective.

The necessary conceptual framework must therefore integrate different dimensions:

- The epistemological dimension, to understand how we know the world through data.
- The ethical dimension, to manage the consequences of such knowledge.
- And above all, the ontological dimension, to understand how datafication changes the essence of things.

Data acts as the building blocks of a new reality that we call augmented or synthetic reality. In this sense, the philosophy of the digital must serve as a compass for navigating an ocean of information where the risk is the loss of the sense of one's own existence as a biological and historical entity.

Analyzing the ontological impact of data also means recognizing the political power inherent in algorithms, which do not limit themselves to suggesting products but structure the field of our possible decisions. If being has become data, then the management of data is the supreme exercise of ontological power.

We have seen how data has become the new vibrant substance of the world, how the algorithm acts as a new form of epistemological reason that privileges calculation over understanding, and how the subject is becoming a hybrid assemblage of flesh and code. The goal for a doctoral researcher is not to reject technology, but to inhabit it critically. Defining being in the age of data means recognizing that humanity is now inseparable from its digital substrate. However, this inseparability must not translate into submission.

The task of the philosophy of the digital is to make the mesh of the algorithmic strainer visible, to denounce the ontological violence of reduction to data, and to design new forms of technodiversity that allow life to flourish in all its complexity. In conclusion, digital transformation is an invitation to rethink the human. We are no longer the same as before, but what we become depends on our ability to maintain critical vigilance over the infrastructures that define us.

If being has become data, then our mission is to ensure that data never forgets the life from which it was born. Only in this way can Digital Transformation be an authentic path to emancipation and not a new form of algorithmic servitude.

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