# 2. From Analog to Digital

Let us start with the sorcerer's apprentice, the Web. **If it may seem that the Web, as a technical apparatus, is too insignificant to bring about a transformation that extends beyond the realm of the material into the spiritual and moral dimensions, it is because we have a limited concept of the Web**. We have, metaphorically speaking, a Ptolemaic image of the Web, focusing on its surface-level structures while overlooking its profound nature, not out of technological ignorance but rather a lack of philosophical attention. Today, 95 per cent of information is digital, and each year the volume of data doubles, surpassing the cumulative data of all previous history. Every internet interaction leaves a trace,[1] while sensors and cameras generate additional data that enriches the archive.[2] Algorithms not only monitor and evaluate human behavior but also comprehend our emotional states,[3] and even produce articles by drawing from the ever-expanding repository of recorded humanity.

It is precisely this vast archive that interests us as a form of capital because it represents a great theoretical novelty that demands our

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1   Dirk Helbing, *Next Civilization: Digital Democracy and Socio-Ecological Finance—How to Avoid Dystopia and Upgrade Society by Digital Means* (Cham: Springer, 2021).

2   Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (London: Profile Books, 2019).

3   Markets and Markets, "Emotion Detection and Recognition (EDR) Market," 2022, https://www.marketsandmarkets.com/pdfdownloadNew.asp?id=233761 76

strategic attention. Merely a decade ago, it was said that financial capital would dominate the twenty-first century[4] and nobody suspected the emergence of documedia capital. The times have changed. With the Web capturing and transforming the myriad facets of human life into data, a new and unprecedented form of data capital has come into existence.[5] As a result, the explosion of recording that defines our era has fundamentally altered ontology by giving rise to a proliferation of social objects. We have an unprecedented wealth of documents, and their numbers are set to grow exponentially (arguably, the docusphere is destined to expand even more rapidly than the anthroposphere). **For the first time in history, social objects outnumber natural objects by an increasingly powerful and rapid progression.** These documents possess a unique characteristic.

While many of them (what I will define as 'semantic data') continue to be the result of a deliberate production process, a far greater volume of documents (which I will define as 'syntactic data') represents the simple and automatic record of human activity, primarily driven by consumption. As production becomes increasingly automated thanks to data interpretation, and enormous profits are derived from profiling, we are witnessing **a historic junction where consumption is more valuable than production**.

To truly grasp the extent of this transformation, we must shift our perspective from "the Ptolemaic Web," which primarily focuses on information and communication, to "a **Copernican Web**" that revolves around the concepts of recording and capitalization. Just as Voltaire famously remarked that the Holy Roman Empire was neither holy nor Roman, we come to realize that digital technologies are not merely ICTs

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4    Thomas Piketty, *Capital in the Twenty-first Century* (Cambridge, MA: Harvard University Press, 2013).

5    "The Rise of Data Capital," *MIT Technology Review Custom + Oracle*, March 21, 2016, http://files.technologyreview.com/whitepapers/MIT_Oracle+Report-Th e_Rise_of_Data_Capital.pdf See also, Viktor Mayer-Schönberger and Thomas Ramge, *Reinventing Capitalism in the Age of Big Data*, cit.; Paul Sonderegger, "Data Hits Peak Metaphor," March 4, 2021, https://paulsonderegger.com/202 1/03/04/data-hits-peak-metaphor/

(Information and Communication Technologies), as the acronym we still employ to refer to them misleadingly suggests. They are, in essence, neither purely information, nor communication, nor (as we shall see) simply technologies. They are, above all else about recording. This crucial distinction marks a radical departure from the past.

The Web is interesting precisely because it goes beyond communication and information-sharing and records the multifaceted tapestry of human life. This act of recording serves several purposes: as the basis for the development of algorithms and archives that fuel the automation of production through the mimicry of the forms of human life recorded on the Web; the optimization of distribution through analytical insights into our needs and behavior; as well as the profiling of social reality through the identification of the intricate correlations between consumption patterns, political inclinations, preferences, and predispositions of various kinds that do not concern individuals, as they may be cognitively less interesting. The focus is rather on ideal types. All of these transformations unfold within a space that stages the human comedy, or more precisely drama (δρᾶμα, i.e., 'action'), as it revolves around actions—sometimes tragic, often comedic, but mostly mundane in nature such as getting an Uber, booking an Airbnb, grocery shopping, or ordering a book.

As with the discovery of America, it is a case of *serendipity*. **If the digital realm has profoundly changed the world, it is due to a minimal and seemingly irrelevant technical feature. In the analogue world, communication took precedence, with recording being an occasional and separate endeavor requiring distinct tools than those used for communication.** Communication happened orally while recording involved the use of hands, pen, and paper. This is no longer the case. In today's digital realm, every act of communication generates a document, i.e., data. Rather than transporting us to a realm beyond our world, the Web introduces new objects—vast quantities of documents—into it, and that is why its impact is so decisive. Therefore, the radical novelty brought about by the Web is not the increase of information, but rather the automation of recording.

Traditionally, recording demanded effort, labor, and financial resources. Consequently, a significant portion of humanity's pre-Web activities have left no trace. This becomes even more apparent when we consider ancient civilizations where social acts were not recorded in writing but rather preserved in forgotten rituals. Since the advent of the digital, we forgot about those objects that required cassettes and tape and which defined the childhood and youth of my generation. This is not because, through some social miracle, recording has lost its significance (which would be impossible, as recording forms the bedrock of social reality),[6] but rather because the fundamental characteristic of the digital realm lies in the fact that every piece of information, in order to be communicated, must first be encoded and thus recorded. To designate the production/consumption of information by users, the category of the "prosumer" has been exhumed,[7] but its resurgence is both insufficient and anachronistic. It is not merely information that is being produced but rather documents which, as we will see, in many cases are *not* accessible to producers themselves.

For this reason, it seems more appropriate to introduce a fresh term that fittingly captures this new status of documentality as the vast archive constituting the social world: **documediality**.[8] In social networks, communication is no longer confined to one-to-many type of interactions but has expanded to encompass many-to-many exchanges, and it has now even extended beyond the realm of the living (consider, for instance, the progressive growth of accounts of deceased users, which by 2070 may surpass the number of accounts belonging to the living, although the reliability of such estimates remains uncertain). Concurrently, and precisely because of the priority of recording, every interaction with the Web for the purpose of accessing services or composing messages produces an immense volume of documents that, in

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6    Maurizio Ferraris, *Documentality: Why It Is Necessary to Leave Traces* (New York: SUNY Press, 2012).

7    Luciano Floridi, *Philosophy and Computing: An Introduction* (London and New York: Routledge, 1999).
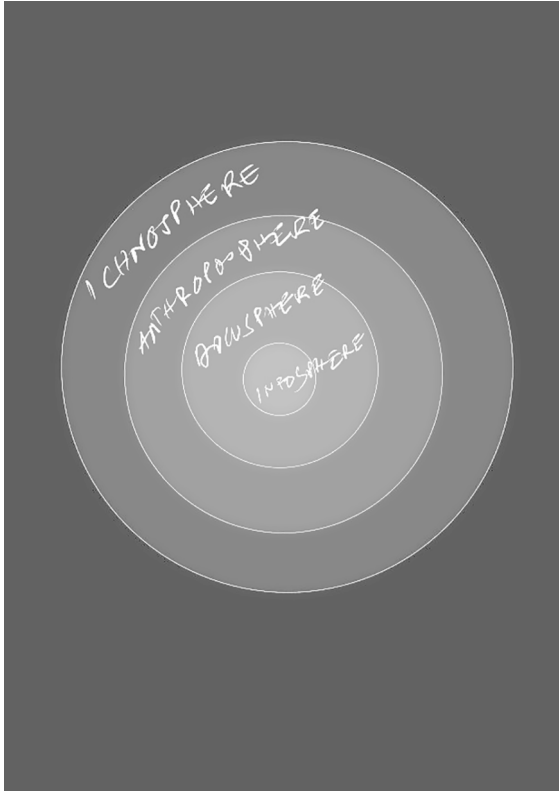
8    Ferraris, *Doc-Humanity*, cit.

their raw form, possess minimal to no intrinsic meaning. However, when subjected to appropriate interpretation, these documents can acquire tremendous semantic value, thereby assuming political, scientific, social, and economic significance. We are thus witnessing the most efficient and powerful capitalization in history, a phenomenon that has not yet been fully appreciated except by U.S. libertarian platforms and Chinese communist platforms. And what drives this immense apparatus? Automation? Clearly not. Machines, in and of themselves, do not progress or generate value. Their value and products stem from the appreciation and needs of human beings. Therefore, consumption, which is essentially the human, is the alpha and omega of automation (currently) and economics (always).

The Web began producing data the moment it began recording every form of human life, including the most evident manifestation of need in the social world, namely consumerism, as well as all the various distinctive forms of human existence that arise in response to the different degrees of sophistication in meeting these needs.[9] **Consumption, which for hundreds of thousands of years simply used to vanish like tears in the rain, now, through recording, not only facilitates automation but also offers invaluable economic benefits through profiling.** Machines, however, do not know what humans want, how they behave, and what their needs, preferences, habits, and eccentricities are. As the production and distribution of goods increasingly fall under the purview of machines, which have, in the meantime, acquired the capacity to learn from experience, educating them about human life becomes a fundamental economic imperative. Moreover, even in cases where processes are not entirely automated, a deep understanding of consumption enables the implementation of a planned economy. The dream of Soviet five-year plans, which floundered because of the difficulty in predicting human

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9    Suffice it to say that 4.7 billion people, accounting for more than half of the global population, owns a cellphone, not to mention that an immense number of sensors are interconnected in the network independently of cellphones. Estimates suggest that within the next decade, their count will reach a staggering 150 billion.

needs and behaviors, is now standard practice among capitalist companies.[10]



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10    Leigh Phillips and Michal Rozworski, *The People's Republic of Walmart: How the World's Biggest Corporations are Laying the Foundation for Socialism* (London: Verso, 2019).

Before addressing the characteristics of the new capital that has emerged with the Web, it is important to acknowledge a network of interconnected spheres that form its premises. The first is the **ichnosphere**, representing the realm of accumulated traces that humanity has capitalized on since its origins and that sets it apart from non-human animals. Then we have the **infosphere**, which predates the Web and emerged with the development of culture thousands of years ago. This sphere allows for the capitalization of knowledge beyond the experience of individuals. Next there is the **docusphere**, as old as writing itself, but that has been significantly enhanced, indeed transformed, through the digital revolution which transformed recording from a rare and costly activity to a ubiquitous and systematic process. However, the docusphere does not record everything indiscriminately; it is selective and captures those aspects of the human life form that hold relevance for the next sphere: the **anthroposphere**. It is this realm, the realm of human life, that is master over the docusphere and technology in general, even if humans, for various and often unfounded reasons, perceive themselves as its slaves.

I have already proposed elsewhere a detailed analysis of the fundamental spheres that comprise the Web,[11] and subsequently refined and expanded the spheres into a more comprehensive phenomenology.[12] Here, I will limit myself to a concise overview in order to show how the explosion of recording within the Web has brough about an ontological shift. It has transformed need, previously seen as mere loss, and consumption (the human manifestation of need), once considered mere waste, into the source of a new capital that can address the needs of an increasingly populous and needy humanity, while also generating value.

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11    Ferraris, *Doc-Humanity*, cit.

12    Maurizio Ferraris and Guido Saracco, *Tecnosofia: Tecnologia e umanesimo per una scienza nuova* (Rome and Bari: Laterza, 2023).

## 2.1  Ichnosphere

What do the handprints on cave walls mean? The notion, somewhat naïve and tinged with superstition, that everything we do not understand must have a religious significance suggests that we are dealing with remnants of a ritual. But why not imagine a prehistoric mother telling her children "Stop it, can't you see that you're making a mess on the wall?" In both scenarios, we would be confronted with intentional traces. Further into the cave, food residues and arrowheads are unintentional traces, evidence of a bygone life. Moving closer in time, we have the pyramids and papyri adorned with hieroglyphics, codices and parchments, baroque libraries, and then those great centers of document production and distribution known as banks and registry offices, stock exchanges and major countries, newspapers and governments—all this for us today is the Web. *All this is capital, and nothing else*.

**Before the Web and before recorded history, there is a more primordial and fundamental sphere, a metaphysical one that concerns a universally attested phenomenon, even beyond the technological realm although it represents one of its enabling conditions. This phenomenon is what I have sought to define as 'hysteresis,'**[13] **namely the survival and potential capitalization of an effect even after the cause has ceased to operate.** In this framework, hysteresis is comprised of a range of functions associated with recording (and which I introduced in detail elsewhere[14]): **inscription**, at the ontological level, allows for something to be recorded thus escaping the transience of the event; **iteration**, at the technological level, allows for indefinite repetition of what is recorded, initiating a process of idealization and capitalization; **alteration**, at the epistemological level, refers to the possibility, though not necessarily the inevitability, of transformation through the process of iteration, whereby

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13    Maurizio Ferraris, *Hysteresis: The External World* (Edinburgh: Edinburgh University Press, 2024).

14    Maurizio Ferraris, *Agostino: Fare la verità* (Bologna: il Mulino, 2022).

the quantitative becomes qualitative, giving rise to meaning; finally **interruption**, or the eschatological dimension, highlights the fact that every process has an endpoint and is meaningful only for organisms, such as humans, who possess a metabolic process that concludes with an irreversible interruption. Hysteresis is comprised of a set of operations that involve the genesis, structure, evolution, and fate of traces. Therefore, the sphere of hysteresis is called the 'ichnosphere,' viz., the sphere of traces (ἴχνος in Greek).

**Recording** happens when a trace is fixed in place. The principle of sufficient reason, valid for the natural cosmos, the social world as well as individual psychology, thus resonates with the phrase *nihil est sine hysteresis*, nothing exists without hysteresis. As in the case with black holes, there can be recording without matter, but matter cannot exist without recording. Now, the question "Why does something exist rather than nothing?" risks futility, as it originated during a time when the search for a primary cause of the universe appeared to be the essential task of science, philosophy, and theology. However, if we reframe the question as 'Why does something *persist* rather than nothing?' then even the question mark becomes superfluous. Everything that is exists because it is recorded, because it maintains a primary level of hysteresis thanks to which, with the Big Bang, the universe emerged from an original recording, a substance that was essentially memory. For instance, the words you are currently reading would not have been possible without a lengthy evolution that presupposes capitalization and transformation. Yet both you and I are inclined to see them as products of my thought, a mere verbalization of my thought, and that the computer is a mere tool to record and transmit them.

Once a trace is recorded, it can start undergoing **iteration**, the capitalization process typical of technology. In other words, the ichnosphere is the necessary, though not sufficient, condition for technology. The Big Bang, the scratch on my cell phone, the compounded interests of capital, language acquisition, the family history predisposing us to rheumatism, and the neuroses that compel us to approach relationships through patterns experienced in childhood—all these are manifestations of this idea: A medium preserves the trace of an action, temporally deferring

its presence beyond the here and now of its production; but this deferral is not an ontological doubling yet, for it can only give rise to new (more complex and qualitatively distinct) objects when a trace is linked to another trace in a process of capitalization. What is can be not only accumulated (preservation is ontological) but also iterated (repetition is technological). The second step is therefore iteration: what remains can be repeated, generating capitalization and enhancement. To move from ontology to epistemology, one must traverse technology. Acts performed by technology are *synthetic acts*, synthetic judgments beings one of its subsets. In both the outcome is not derived from the analysis of premises: 12 does not arise from the analysis of 7 and 5, but rather from their sum, just as a statue does not emerge from the mere analysis of the marble of which it is made. The same holds true for the outcome of a battle, the success of a cake, the conclusion of a contract, the making of a promise. Synthesis—the result—is *a posteriori*, yet the conditions that make it possible are *a priori*, in the sense that they cannot be even minimally anticipated and understood through the mere analysis of form, actions, or materials.

**Alteration** is then a modification that can occur during iteration as in the transition from the quantitative to the qualitative, from sign to meaning. This process, as we shall see, plays a crucial role in the genesis of so-called 'big data.' Iteration can thus undergo qualitative changes as it occurs when *praxis* transforms into *poiesis.* The paradigmatic realm of alteration is epistemology, viz., the domain of what we know or believe to know, a reorganization of the known that leads us toward the unknown, a doing that becomes knowing, and more profoundly, a transition from what is merely mechanical to what is human, the result of the interaction between organism and mechanism.

Praxis has hysteresis, so to speak, behind itself for it consists in the iteration of gestures learned and perfected through practice. Poiesis has hysteresis behind and ahead of itself, with all the effects resulting from imitation and exemplarity. In this sense, the nature of the relationship between ontology and epistemology guaranteed by technology does not consist in top-down construction but in bottom-up emergence whereby epistemology emerges from ontology through technology, that is, from

competence without understanding. At a certain point, iteration can turn into alteration, into the reconfiguration of a given, knowledge-independent field, which at a certain point, and following a technologically determined method, generates a meaning that was previously not evident: the butler is the murderer; the earth is round; Madame Bovary is a fictional character. Epistemology is the (not necessary but always desirable) result of the encounter between ontology and technology, between recording and iteration, that can give rise to something qualitatively different, namely, alteration. Iteration, in fact, is not only the possibility to guarantee the persistence of objects in space and time; it also allows for differentiation, the introduction of variation principles into repetition. Just think about species variation based on random mutations made possible by an enormous temporal extension and an even greater availability of material.

Every process has an end. And it is in this **interruption** that we recognize the *telos*: the progression comes to a halt, and meaning, purpose, and goal emerge. This final function of hysteresis concerns everything that is, but it has quite a peculiar significance for humans. Hysteresis is not an infinite process. Everyday experience shows that everything that is ends: mountains erode, stars explode, washing machines obey their fate of planned obsolescence, and organisms follow the road of everything that is flesh. This may seem disheartening, and indeed it is. However, upon reflection, the opposite would be worse. Not only would we face eternal boredom, but above all, everything would lose its meaning. Why? Because everything is what it is because it relates to organisms, to humans in our case, who, aware of the ticking clock and the final destination, produce all those things that make humans unique, at least in our own eyes. Only that which has an *end* can have an *end-goal*, as it is aware—if it is a professor—of the uniqueness of choices and the historicity of existence, and of the pressure of alimentary and vital needs, whether it is a professor or a duck.

## 2.2 Infosphere

Descending from metaphysics, we enter the sublunar world of cell phones and computers. Why do we buy them? Largely, to access information and services. The infosphere[15] is the visible face of the Web, where conspicuous phenomena occur, such as fake news or privacy threats, diverting attention from the underlying structure. The Web is often portrayed as consisting *only* of an infosphere, but the infosphere is merely the tip of the iceberg—an island of information gathering semantic capital no different (except for greater accessibility) from what can be acquired in any analogue environment, be it a print newspaper, a traditional library, an art gallery, an old television set or radio. The fact that analog and digital are interchangeable is evident from the systematic hybridization of analog and digital today. The capital formed in the infosphere consists of **semantic data**, of meanings that can be true or false like any other meaning. It is a capital that can be easily read without any special hermeneutic tools. As such, in terms of content it is no different from the analogue world except, as mentioned, for its greater accessibility: I can search for information right there on my cell phone instead of going to a library. Therefore, *nihil est in infosphera quod non fuerit prius extra infospheram*. In short, we have a mere digital doubling of things such as train schedules, libraries, newspapers, diary pages, and letters to pen friends, all available in analog format.

Once this is understood, it becomes clear that there is a misconception associated with the notion of the 'infosphere,' namely the idea of the Web as *collective intelligence*.[16] Admittedly, a library can metaphorically be called a 'collective intelligence' so there is no reason to view the Web differently. But the idea that an encyclopedia is much more knowledgeable than its most learned editors is swiftly contradicted by the fact that an

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15    Alvin Toffler, *The Third Wave* (New York: William Morrow, 1980. See also Luciano Floridi, *The 4th Revolution: How the Infosphere is Reshaping Human Reality* (Oxford: Oxford University Press, 2014).

16    Pierre Lévy, *Collective Intelligence: Mankind's Emerging World in Cyberspace* (New York: Plenum Trade, 1997).

encyclopedia cannot read and thus knows nothing. The same applies to the Web. There is a wealth of information in a library, but the library is as ignorant as the shelves that hold the books. Again, the same applies to the Web. One can best examine the infosphere from three distinct positions: idealism, skepticism, and realism. **Idealism** arises from the hypostatization of the infosphere, called upon to represent the totality of the Web, which is in turn identified with the totality of the world. This is summarized in the thesis that the informational is real and the real informational.[17] If this were the case, the digital revolution—unlike the other revolutions it is often compared to[18]—would, in fact, have the features of a philosophical restoration, returning us to Berkeleyan idealism. For Berkeley, only ideas existed, and in the hypothesis of the infosphere, only information exists.

Now, as it has been authoritatively pointed out,[19] we have two possible approaches. On one hand, we can embrace an information theory akin to the one used in physics and speak of information in the same breath as mass and velocity. However, this raises questions about why we have entered the infosphere precisely at this moment and why we specifically refer to it as the 'infosphere' rather than the 'energosphere, 'massosphere' or 'tachisphere.' On the other hand, we can take a more conventional understanding of 'information.' In this case, there are two scenarios: either we acknowledge that information is merely a part of reality, as it has always been, recognizing the distinction between epistemology and ontology, thereby negating any need to argue that we live within the infosphere; or we can assert the equivalence of the real and the informational, affirming that ontology and epistemology are identical and falling into the trap of a transcendental fallacy by equating being with being known: *esse est concipi*. Unless we wish to embrace a doctrine

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17    Luciano Floridi, *The Logic of Information: A Theory for Philosophy as Conceptual Design* (Oxford: Oxford University Press, 2019).

18    Floridi, *The Fourth Revolution*, cit.

19    John R. Searle, "What Your Computer Can't Know," *The New York Review*, October 9, 2014.

that boasts few conscious defenders[20]— even though it served as the implicit foundation and thus the intrinsic fragility of postmodernism in the last century[21]—we must view the infosphere not as a new world that envelops and replaces the old, but rather as an interactive realm that has existed since time immemorial and has now become readily accessible through the Web.[22]

Information is a primary good since it is in knowledge that our competitive advantage over non-human animals lies. Unfortunately, knowledge has the frustrating characteristic of potentially being false. This is where the presumed advantage turns into ruinous disadvantage. We will never see a beaver burned at the stake by the Inquisition or ruined by smoking. Neither the beaver nor any other form of life, except for humans, can conceive the idea that ontology, or what exists, depends on epistemology, or what we know or believe to know. Since Kant, however, this aberrant conception is widespread among human animals. The first step forward in epistemology must therefore involve abandoning the conviction that what exists is identical to what we think exists.

One version of the infosphere linked to **skepticism** or the suspicion syndrome is the hypothesis of "surveillance capitalism."[23] The aim of market knowledge through data is not only about leveraging data to boost sales but also about standardizing people's tastes and preferences. The true power of the Internet giants would then lie in their ability to induce questions in users before providing the desired answers. However, it is unclear how any commercial benefit could emerge from such

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20    John Foster, *The Case for Idealism* (London: Routledge, 1982).

21    I discussed this perspective at length in my *Manifesto of New Realism* (New York: SUNY Press, 2014).

22    Unlike Teilhard de Chardin's "noösphere," or Frege's and Popper's "third world," the infosphere does not represent an entirely autonomous domain of abstract entities. Instead, it takes on a humbler role, as Alvin Toffler, its originator, has aptly described it—an expansive sphere of technological possibilities that enables knowledge dissemination, self-expression, and entertainment. Cf. Pierre Teilhard de Chardin, *The Vision of the Past* (New York: Harper & Row, 1967).

23    Zuboff, *The Age of Surveillance Capitalism*, cit.

uniformity in consumption. Conversely, there is nothing more commercially profitable than the freedom, or rather the diverse and endlessly evolving 'unpredictability' of human tastes, which continually unveil untapped commercial frontiers.[24] As for skepticism, a final point of paramount importance and deserving thoughtful contemplation arises: the same allegations that platform capitalism faces as surveillance capitalism, back in the 1960s were aimed at the 'hidden persuaders' of the society driven by advertising, conventional mass media, and the age-old industrial capitalism—all this well before we had the faintest glimpse of the Web's advent.

Finally, from the standpoint of **realism**, semantic capital (with its wealth of content and services) provides a powerful incentive for humans to access the Web and obtain information while simultaneously generating a surplus of information. It is a polarizer of needs rather than a receptacle of ideas. The primary function of semantic capital is that of an alluring magnet, aiming to provide compelling reasons for humans to access the Web. As such, it does not guarantee truth but is solely focused on arousing interest. It is therefore not surprising that the infosphere is the breeding ground for post-truth, precisely because it is the realm of attractions, opinions, insinuations, and social exchange. But this does not mean in any way that the polarization typical of online interactions makes post-truth an entirely novel phenomenon in world history. As it has been rightly observed,[25] post-truth is merely magnified and empowered by the technical characteristics of the new tool, the great attractor

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24   In 1919 Keynes wrote *The Economic Consequences of Peace*, where he warned against the severity of the conditions on those who lost the war, though his advice went unheeded. Nonetheless, his work laid the foundation for the Marshall Plan. Today we would be happy if a revived Keynes wrote *The Economic Consequences of Freedom*. The spirit is by definition free, without necessarily being wise, good, or intelligent. That is why, if freedom is an obstacle to planned economy, the platform economy recognizes that nothing is more profitable than freedom as an expression of the infinite and often irrational forms of human life.

25   Cf. Fabio Paglieri, *La disinformazione felice: Cosa ci insegnano le bufale* (Bologna: il Mulino, 2020).

of human curiosities, vices, and virtues. This, I believe, confirms my fundamental thesis about the infosphere: far from constituting the entirety of the Web, it motivates humans to access the Web by providing high or low-quality services, truth or post-truth, all free of charge. However, once humans are drawn into the infosphere, they produce an enormous amount of data within the docusphere. It is at this stage that the platforms begin acquiring documents which, if compared with billions of other documents generated by humanity as a whole and interpreted correctly, produce inestimable value in terms of automation, profiling, and advertising revenue.

## 2.3  Docusphere

The docusphere is the ocean in which the islet of the infosphere rises. It is the domain where the acts of humanity are registered and capitalized upon, transforming into data that compose what I will later define as 'the human heritage.' This is a social capital that mankind has always produced, but in today's era, it produces it in quantities unprecedented in the past. The true revolution brought about by the Web does not merely lie in the possibility to express our ideas, whether right or wrong, but rather in the fact that, as we express ourselves or simply engage in activities like reading, scrolling, walking, looking for restaurants or hotels, or seeking navigational guidance, these actions are meticulously recorded. Once they are recorded, they can be compared with the acts of millions of other humans, shedding light not on the ethereal skies of our thoughts and beliefs, but on the tangible soil of our actions and deeds.

Once we step into the docusphere, within the vast sea of the Web, it becomes imperative to distinguish between **semantic and syntactic data.** Semantic data can be comprehended given the necessary cultural framework (such as knowing Hungarian when reading a Hungarian Wikipedia entry), whereas syntactic data (geolocation, contact history, and the broader scope of what is known as "metadata") only acquire meaning through correlations with billions of other data points—a task that currently only large platforms can handle. The science required to

understand semantic data is available to any educated person, while comprehending syntactic data necessitates access to unfathomable volumes of information and the possession of immense computing power—privileges currently enjoyed by only a handful of big players. Currently, it is primarily syntactic data that generates surplus value. More concretely, the docusphere is the structure wherein **syntactic capital** is generated. This is a new form of capital on par with financial capital in its capacity to birth new digital products and services. However, syntactic capital has its own set of rules.[26] Unlike financial capital, it does not require a deliberate intention of capitalization; rather, we produce syntactic capital while engaging in other activities. From this perspective, the analogy of data as the "new oil"[27] is misleading for two significant reasons.

First, data is different from oil in that it is renewable energy—much like ideas, data can be shared and reused to our heart's content. Second, oil was formed millions of years ago through the decomposition of dinosaurs, rendering it a resource for which no entity can claim restitution. In contrast, we actively produce data ourselves and possess every right to demand that it be returned, not so much to us as individuals (individual data has little value) but rather to humanity, which stands as the true rationale behind the capitalization of this newfound value. Like the Native Americans facing the conquistadors, we often deem the exchange between syntactic data (gold) and semantic data (colored beads) advantageous or at least equitable. But if the natives engaged in such trading practices because they belonged to a culture different from the one of the conquistadors, we have far fewer justifications—unless we want to invoke the *ignava ratio*, the lazy reasoning that leads us to believe that the

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26    Paul Sonderegger, "Three Things You Should Know About the Hidden Data Economy," *Paul Sonderegger* (blog), November 23, 2020, https://paulsonderegg er.com/2020/11/23/three-things-you-should-know-about-the-hidden-data-ec onomy/

27    "Data Is the New Oil," coined by mathematician Clive Humby. See Michael Palmer, "Data is the New Oil," *ANA Marketing Maestros*, November 3, 2006, h ttps://ana.blogs.com/maestros/2006/11/data_is_the_new.html

most interesting aspect of the Web is the effortless access to transparent information that it grants us. The politically decisive aspect in this context is therefore to recognize the processes of surplus value formation.

In the realm of communication technologies such as the traditional telephone, users paid for a service (often too much because of monopolistic practices) and, as soon as they received it, that was the end of the transaction. The telephone company would collect the profits and try to reinvest them for further gain. By contrast, within the domain of recording technologies, such as the cell phone, when we make phone calls or perform searches free of charge, it merely marks the beginning of an immense capitalization process for the platform. The platform records the metadata (far outnumbering the information we received: the time, day, search location, personal details, etc.), thereby assuming ownership through primary accumulation. These records are subsequently compared to billions of other users' data, facilitated by technological and conceptual tools. The result are profiles that can be used for automation and distribution purposes, or can be sold, generating profits that surpass those of traditional stock investments, primarily because, let us recall, they were acquired for free.

But why do we provide data for free? Because of a **capturing process.** While I search the Web for evidence that the Earth is flat and the moon made of cheese, I am unwittingly divulging valuable information about the behaviors of flat-Earth proponents. The platform will use this data to sell me books on my favorite topics (if it is an American platform) or send me to a reeducation camp (if it is a Chinese platform). European platforms, empowered by the data portability law, could employ this treasure trove of information to promote a new well-being and social justice, perhaps ultimately mitigating the reasons that lead individuals to visit flat-Earth website in the first place. Cameras, telephones, smart eyeglasses and watches, and, of course, the trusty old computers meticulously record every act, glance, desire, need, spoken or written word, our every taste and disgust, stroke of genius as well as moments of sheer idiocy. Their purpose is not necessarily to control us and for good reasons: we are not that interesting as individuals. What truly matters are our patterns of conduct because the only way to serve humans and at the

same time replace them is by knowing how they behave and what they want, and we have never possessed such profound insight into this as we do now. Our identities, political opinions, virtues, and vices are only of interest to our neighbors and the government, but certainly not to commercial platforms. What they are interested in is behavioral data: our whereabouts, air travel routines, preferred restaurants, and how often we visit specific websites. Their objective is not to scrutinize the abyss of our inner selves but to unveil correlations and general patterns, the continuous bassline and enduring tapestry of human life.

Given this state of affairs, **it becomes crucial to recognize the inequality in the relationship that currently exists between the paradigmatic form of technology (internet platforms) and the users.** By immersing ourselves in the infosphere, we can find out when the next flight to Madrid is, which is useful. However, the platform, which unlike me has access to the docusphere, learns how many individuals have searched for that information, where they were, what they did before, and what they will do afterwards. This enables the platform to compare the data with millions of other searches, providing insights not into the present but into the future. In essence, online platforms obtain profiles that, in this case, enable an airline to ensure consistently full flights. This economic advantage motivates the airline to pay the platform for the data we freely provided. Thus, the production of value is exploited, involving children and the elderly, the employed and unemployed, rulers and beggars, who, in exchange for free information and services, relinquish data that are of infinite value to those who possess the means to capitalize on them.

In light of these circumstances, our task is twofold. On the one hand, and in the critical spirit of humanistic knowledge, we must **recognize the surplus value** produced by humanity, often unconsciously, on the Web. On the other hand, in line with the practical function of technological knowledge, we must identify the tools that will allow us to achieve a **fair redistribution of this value**, benefitting the many. But where can we find the leverage point to overturn the balance of power? A simple reflection unveils the answer: **the Web will vanish the moment humanity ceases to exist. Therefore, its existence is fully contingent upon humanity much**

**like viruses depend on living organisms. This circumstance forms the basis for a fair use of surplus value.** The human being, as a living being systematically connected to a mechanism, has never been as important as it is today.

While metaphysics, at least in its traditional misinterpretation, seeks to transcend physics, the metaverse promises an escape into the virtual while collecting information about what is supremely physical and tangible: our skin, our eyes, our hands. Never before has the so-called "virtual age" been imbued with such palpable reality. Only in the age of Artificial Intelligence have we truly grasped how essential natural intelligence is in conferring purpose and meaning. And this is not because natural intelligence is inhabited by a spirit that transcends the calculations of machines, but because it is embodied within an organism, a living system with its urgencies and mortality.

## 2.4 Antroposphere

**The very possibility of a docusphere is dependent on the anthroposphere, that is, the circumstance that, in the absence of human users, the entire process of capitalizing on consumption within the docusphere would lose its** *raison d'être*. We can be sure that a beaver will never try to access the internet for the very same reason that it won't use a shovel or wear a hat. Accordingly, it will never provide information about its way of life, its preferences, its deep motivations, and how exactly it builds dams. However, unlike beavers, humans provide the Web with a wealth of information about themselves, all meticulously documented within the Web's archives and reflecting their specific and diverse linguistic playfulness, aspirations, and aberrations. The interaction between the anthroposphere and the docusphere engenders a capital far superior to both industrial capital (increasingly facilitated by machines trained in the ways of humans) and financial capital (that merely speculates on the future hopes of a minuscule fraction of humanity). This because documentary capital, the data accumulated in the docusphere through sheer human activity, represents the most accurate

portrait we currently possess of humanity's real present and, over the years, of its past. This new capital will outline a natural and social history of humans that, if studied adequately, stands unparalleled not only in economic terms but also in the purely theoretical realm of the Delphic "know thyself."

**Human capital** is, in a proper sense, the recording of human life as such in all its infinite variations. Yet, for now, the prevailing notion is that machines employ human contributions perfunctorily, albeit indispensably: whether explicitly, such as in microtasks aimed at enhancing the Web's efficiency,[28] or implicitly, as users help enhance image recognition systems through CAPTCHA,[29] or even through self-learning enabled by sophisticated digital technologies that manage and monitor labor. But these are mere surface effects of a deeper, radical reality that, if understood, holds great promise—the production of value by humans merely by virtue of being human. The point to be grasped and valued is another: Useless as appendages of shovels, lathes, and typewriters, humans are irreplaceable as appendages of knives and forks, cinema, concerts, novels, and countless other less commendable and yet exclusively human forms of entertainment.

**To discover the value of human capital and draw the logical consequences for the benefit of the few has been the great advantage of commercial platforms. It is now up to us to draw the political consequences for the benefit of the many**—civilians and military personnel, old and young, parents and children, pacifists and warmongers, geniuses and fools)—who deposit their interests, desires, hopes, and, above all, the silent acts and facts of their lives into the universal archive. One could certainly observe that there are poorer individuals than those who merely possess data. They are the victims of the *digital divide*, unable to reap its benefits and, most significantly, excluded from history because they do not generate data that renders them politically,

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28    Amazon Mechanical Turk, https://www.mturk.com/
29    Acronym for "Completely Automated Public Turing Test to tell Computers and Humans Apart."

socially, and economically significant or interesting.[30] This amplifies the discriminatory potential of big data.[31] In response, I emphasize that the interest of commercial companies lies in extending access to its maximum, not because they want to diminish the digital divide out of humanitarian motives, but for political and economic reasons. The most glaring manifestation of this process can be observed in Africa where American and Chinese companies engage in a battle to make the vast quantities of data produced by one and a half billion individuals accessible through massive infrastructure investments.

30    Mark Andrejevic, "Big Data, Big Questions: The Big Data Divide," *International Journal of Communication* 8 (2014): 1673–1689, p. 17.

31    Maddalena Favaretto, Eva De Clercq, and Bernice Simone Elger, "Big Data and Discrimination: Perils, Promises and Solutions. A Systematic Review," *Journal of Big Data* 6: 12 (2019), https://doi.org/10.1186/s40537-019-0177-4