# Towards the creation of associated hypomnesic digital milieus: an introduction to digitology.

*"[K]nowing the power and the actions of fire, water, air, the stars, the heavens and all the other bodies in our environment as clearly as we know the various crafts of our artisans, we could (like artisans) put these bodies to use in all the appropriate ways, and thus make ourselves the masters and (as it were) owners of nature."*

René Descartes, Discourse on the Method (2017, 24)

*"The incompleteness of techniques sacralises the problems of finality*
*and enslaves the man to the respect of ends that*
*he represents himself as absolutes."*

Gilbert Simondon, On the Mode of Existence of Technical objects (2012, 208)

**Abstract:**

This essay provides a reflection on the relationship between humans and digital technologies based on the works of Simondon, Stiegler and Yuk Hui. Through an account of Stiegler's concept of memory, supplemented by Hui, my attempt is to outline the characteristics of current digital milieus through an analysis of the essence of 'thresholds' of interaction within digital platforms. I argue that although these technologies offer significant possibilities for the creation of singular associated hypomnesic milieus, the potential for user mediation remains scarce and the road towards *digitology* still holds many obstacles.

Thursday, 28th of October 2021 is a date to remember for all media theorists and, certainly, for humanity itself.

On this day, the CEO of the newly named company Meta (formerly Facebook) Mark Zuckerberg, publicly announced the launch of its metaverse. This term is not easy to define comprehensively, as the extent to which it modifies the way humans experience the world remains yet to be discovered. Though, I suggest defining it simply as a new kind of virtual and social 3D world, composed of potentially infinite environments that partly emancipate human relations from constraints constituting non-virtual environments. Our relation to time and rhythm had already experienced great change with the advent of computers and digital technology, due to the rapidity of information sharing they allow. Consequently, our relation to space has also been impacted. But the advent of the metaverse(s) promises to take this change to a new level.

In the video presentation of this metaverse published the same day, the emphasis is put on "the future". Indeed, sentences like: "We always ask where is the future gonna take us, but the real question is: where we gonna take the future?" or "This future will be made by all of us" (Meta, 2021) seem to promise unprecedented freedom and control, although two seemingly antinomic notions, over our human destiny: a step forward towards the achievement of Descartes' dream. Nevertheless, Meta's endeavour comes within the scope of numerous academic debates that discuss the extent of this 'freedom' supposedly granted to individuals being part of current media environments. Various critics have been voiced, notably regarding the potentially 'dehumanising', 'alienating' and/or 'controlling' nature of industrial - and later also digital - technology in the networked era (Simondon, 2012; Rouvroy and Berns, 2013; Stiegler, 2010a; Stiegler, 2018; Deleuze, 1992; Galloway, 2006; Hui, 2015; Hui, 2017). Meta's enthusiasm about our cooperatively built 'future' distinguishes neatly from the tone of these authors' assessment of the digital world.

In this essay, I am going to draw upon the works of Simondon, Stiegler and Hui to reflect on Meta's endeavour to build the future 'together'. More precisely, I will attempt to analyse this claim theoretically by shedding light on the nature of the relation between humans and digital technologies, and ultimately assess it through this lens.

To understand the future, in a digitalized society, one must focus on the present and the past. This first part will attempt to provide an explanation of this suggestion.

## *Theory of inner-time consciousness*

The circuit of retention and protention was developed by Husserl in his theory of inner time-consciousness. Retention refers to the capacity of remembering whereas protention corresponds to the capacity of anticipation. Husserl distinguishes *primary* and *secondary* retentions and protentions that I will refrain from defining in detail here for economical reasons (see Hui, 2019, 201; Hui, 2013, 80; Celis Bueno, 2017, 83-86). In a word, *primary* retention and protention appertain to the *present* object as it is perceived, and *secondary* retention and protention appertain to the *past* object, as it is imagined. Husserl distinguishes strictly these two retentions, meaning that he affirms an absolute difference between perception and imagination. In other words, Husserl excludes categorically that what is perceived can be imagined. Stiegler disagrees with this statement. According to him, *primary* retentions are actually *primary selections* that are function of *secondary* retentions, which ultimately constitutes attention (i.e., A = R2s (R1 = S1)). This functional relation is conditioned by what he calls *tertiary* retentions, which leads to amend the latter equation as follows: A = R3s (R2s (R1 = S1) (Ars Industrialis, 2017). *Tertiary* retentions are artificial memories that invoke *primary* and *secondary* ones and are characterized by the exactitude of the temporal object in question (e.g., a music on Spotify). Also, they require a technical object to serve as material support, such as a smartphone (Hui, 2019, 201). The three retentions produce corresponding protentions, that is, anticipations. Retentions and protentions form a circuit, insofar as protentions are produced by retentions, or in other words, imagination is dependent on perception. They form what Stiegler calls, after Simondon, a transductive relation (i.e., perception requires imagination in order to be, and imagination always proceeds from perception). Although, *tertiary protentions* are not sufficiently developed by Stiegler as Yuk Hui points out (Hui, 2019, 210). We will come back to this point later.

*Associated hypomnesic milieus*

As the previous section hints, the concept of memory is central to Stiegler's understanding of technology. Humans can exteriorize their finite, biological, memory into lasting tools, symbols, and technics that in turn condition their perception. Following Plato, Stiegler defines *hypomnesis* as the recollection through externalized memory (Stiegler, 2010a, 67). For McLuhan and Kittler, this is also what defines media (Galloway, 2012, 16). The 'fault of Epimetheus' or the advantage of humans compared to other living species seems to be precisely this capacity to exteriorize memories that allow them to adapt to their milieu, by modifying it. This is what Stiegler calls the 'third memory', that is supported and constituted by technics (Stiegler, 2010a, 74).

Other species are also able to alter their environment to favor their survival. In fact, evolutionary biologists have argued that this phenomenon also "may change the nature of the[ir] evolutionary process" (Laland, Odling-Smee and Feldman, 2001; Sterelny, 2001). Humans, Stiegler claims, are able to *adopt* their milieu in order to overcome its constraints, by creating associated milieus (Hui, 2019, 205). This notion is borrowed from Simondon, which takes a central aspect in his work on individuation. Indeed, Simondon's concept of individuation distinguishes from previous conceptions of individuation insofar as it takes into consideration the associated milieus of the individual to explain both, according to a pre-individual reality. In this way, human or technical individualization (i.e., perpetuated individuation) is operated through a recurrence of causality with the associated milieu (Simondon, 2012, 75; Simondon, 2017). Individuals therefore both condition and are conditioned by their milieu.

Technical ensembles follow a process of concretization, or perfection, that culminates when they integrate their milieu into their functioning as a sine qua non condition, like the famous example of the Guimbal turbine (2012, 66). In this case, they are understood as *technical individuals*.

In order to write this essay, I could not solely rely on secondary retention. My biological memory appears limited in volume and may prove untrustworthy at times. On the contrary, tertiary retention (i.e., exteriorized memory) is orthothetic, meaning that it remains the same. The environment I currently find myself in can be describes as an associated milieu. Indeed,

I have modified my environment with personal exteriorized memory (e.g., my desk is currently full of post-it notes) and with technical objects made by other people (e.g., books, desk, etc.), in order to overcome a problem, that is, to submit my assignment. This associated milieu helps me to remember, to learn, and to produce this very paper. This series of events will in turn condition the way I apprehend further knowledge and the choices I will take in the future (for instance, the topic of my next assignment).
This example seems to correctly illustrate the circuit of retentions and protentions developed above, through the creation of an associated hypomnesic milieu.

## *Digital Milieus*

Given what has been developed in the previous section, it is necessary to investigate the changes brought by digital technology on our hypomnesic milieu. In the following section, I am going to attempt making sense of the new kind of milieu constituted by digital technology, as well as its implications of human experiences.

In the end of the last century, we witnessed the emergence of a new *grammé*: data (Stiegler, 2010a). Data are produced by users of digital technologies, but also by machines equipped with sensors (Hui, 2013, 78). They can be recorded, stored, organized, analyzed, and used at an unprecedented speed. They can also be formalized by 'meta-data' schemes – or data about data – and constitute what Hui calls 'digital objects' (Hui, 2013, 78-79).
The Internet and the variety of digital technologies used all around the world considerably increase the volume of exteriorized memories. Through *mnemotechniques* (i.e., conscious methods of memory storage) humans can store knowledge. For instance, the alphabet is a *mnemotechnique* that enables the storage of knowledge through writing books. *Mnemotechnologies*, on the other hand, enable the systematic order of memories (Stiegler, 2010a, 67). For instance, IOS's 'Photos' application orders chronologically and geographically users' memories that are in the form of pictures. These two notions differ notably regarding the scale at which they may be organized and managed, both in terms of volume and geography. Stiegler's assessment of this evolution is rather alarming. He states:

"We exteriorize ever more cognitive functions in contemporary mnemotechnical equipment. And in so doing, we delegate more and more knowledge to apparatuses and to the service industries that network them, control them, formalize them, model them, and perhaps even destroy them." (Stiegler, 2010a, 68).

Indeed, the providers of technologies capable of managing data are, to a large extent, private companies whose decisions are primarily driven by the necessity of profit-accumulation. This necessity translates into technological designs that are aligned with the company's business model. Externalized memory in the form of data, and formalized as metadata (i.e., data about data) can thus be manipulated towards a certain end, that is often not determined by users themselves.

Digital platforms can be said to constitute to a large extent the associated milieu of today's individuals. Indeed, perceptions and resulting imaginations are increasingly influenced by content found on these platforms. Also, memories from all around the world are increasingly synchronized (Hui, 2017) due, notably, to the limited number of 'canals' that organize the recording and analysis of third memories. The rapid growth of algorithms in the environment, that Hui suggests defining as exteriorized reason (Hui, 2015), adds to the rapidity and automaticity of relations. Yuk Hui comes back to the concept of *tertiary protention* and associates it with *preemption* (2019, 210-215). This term designates the delegation of decision making to algorithms. With the help of big data, actors who possess the necessary resources can know precisely about the behavior of immense networks of people and operate a 'manipulation of consciousness', which can greatly undermine our freedom. It would be necessary to engage in an overview of the concept of freedom which has been given various, and sometimes contradictory, definitions throughout history. But this would require us take this essay into a different direction. For the sake of the argument, I will only draw upon Isaiah Berlin's concepts of positive and negative liberties (1969). In a word, negative liberty refers to the absence of coercion: to be free *from* constraints. Positive liberty, on the other hand, refers to the freedom *to* act. These two conceptions may lead to very different political directions. In the case of algorithms' preemption, 'freedom' seems to mean 'choice' between pre-empted solutions.

Based on what has been developed above, we can say that externalized memories in the digital era form an associated hypomnesic milieu, insofar as there in interaction taking place between digital technologies and users through the mobilization of data. This relation has

changed compared to the past. As Stiegler points out, industrial mass media drew a clear line between ‘producers’ and ‘receivers’ of content. With digital media platforms, this is no longer the case (Stiegler, 2010a; Stigler, 2010b). In theory, individuals should have an unprecedented capacity to act on their environment and create an associated hypomnesic milieu. However, in the next section, we will see that the current stage of evolution of digital technologies do not seem to enable the constitution and expression of individuals’ singularities.

## *Towards a digitology?*

If humans can exteriorize memories in technics, which results in an increasing capacity to associate with their milieu to overcome constraints, and if digital technologies enable an unprecedented capacity to record, store and manage their third memory, then why can we hear so many pessimistic discourses about the digital world?

To attempt answering this question, I suggest focusing our attention on the material interaction points that link users and machines. For that, let us first go back to Simondon’s reflection on technical objects. According to him, the purely automated machine is not desirable insofar as it does not contain any margin of indetermination, it is not open to exterior information, and therefore cannot attain its highest degree of concretization. For him, it is necessary, for the sake of both humans and machines, to constitute technical ensembles that require mediations operated by humans. Unfortunately, this role of mediator had no ‘social existence’ at the time. This function is the one of what Simondon calls *mécanologue*. It must not be confused with the role of the engineer. Instead, it is closer to the one of a sociologist or a psychologist. The *mécanologue* acts as a mediator between machines, like the conductor and the orchestra. This person demonstrates a true *technical culture* that, according to Simondon, allow to overcome the problem of alienation (Simondon, 2012, 203-4).

As we have seen in a previous section, the evolution of technical objects can be understood in terms of the concretization of technical individuals, which integrate their milieu in their functioning through a recurrence of reciprocal causality. In digital technologies, as Yuk Hui points out, the foundation of this causality is no longer physical but digital. That is, operated through data (Hui, 2017, 317).

Then, we may wonder how do users interact, 'technically', with digital technologies today? Here, I would like to focus on the very thresholds that materialize some of our interactions with our hypomnesic milieu in order to question its 'associated' nature. I will focus on a specific type of 'thresholds' present on digital platforms to analyze our relationship with them, and account for the potentialities of association afforded with our digital milieu. Among them, we find Facebook and Instagram's "Like", Twitter's "favorite", 4chan's "upvote" and "downvote", etc. The 'thresholds' I am referring to here do not seem to have a specific name that correspond to the type of analysis I attempt to make. In the context of social media, they are called 'engagement', but I believe that this term does not correctly encapsulate the type of being I am attempting to point out. It is important to emphasize that the same element may be called differently according to platforms (e.g., 'Like' on Facebook and 'Fav' on Twitter). However, I suggest that their essence depends on their utility, for users and for the platform itself.

First, let us focus on their utility for the platform. Facebook and Instagram's 'Like', Twitter's 'fav' have the same utility for the platform insofar as they indicate, in the form of data, relations between digital objects. Indeed, human beings' online behavior under a virtual 'profile' is recorded, stored, and managed in the form of data. As Yuk Hui argues: "Human beings are […] reduced to computational processes, and ultimately digital objects. Digital objects thus become the basic units recognized by both computers and human users" (Hui, 2013, 79). Thus, all these forms of 'like' indicate the voluntary manifestation of a relation between two digital objects (e.g., between a profile and a video). Though, the 'quality' of this relation is not considered, as it is simply impossible to capture with certainty the subjective motivation of a user. In fact, the machine cannot enter the subjective realm of human beings. In other words, 'liking' a post on Facebook cannot be said to equate the actual appreciation of a subject for a particular object. To put it simply, this action only creates a link between two digital objects, that will then be taken into consideration by the platform for it to pursue the goal that drives it. In the case of Facebook, this goal is the accumulation

of profit. My goal here is not to criticize this end. Rather, it is to shed light on the inner mechanism of such platforms.

Regarding their utility on the user perspective now, all we can affirm is that, by 'liking' a post on Facebook, the user decides to manifest its expressive and productive relation with a digital object. This relation is expressive because it "tells something" to the platform and to other users. When users 'like' a piece of content on the public feed, they express their relationship with this piece to a particular network. Whether or not this relation will actually be manifested to - or made conscious by - other users do not matter, what matters primarily is the user's will to express his relation to them. This action is therefore productive of social relations. I argue that YouTube's 'like' is different from the one of Facebook. Although they have the same name, their utility is very different. On YouTube, the 'like' is only partially associated to a user's profile. For instance, the publisher of a video cannot see who 'liked' their content but can only see how many did so. Additionally, this 'like' affords the personal archiving of content that can then be found in the 'Liked videos' index. This relation is also expressive to the platform insofar as it indicates a desire to consume related content. The essence of the YouTube's 'like' is therefore very different from the one of Facebook.

The objective of this section is to suggest a new way of understanding users' interaction thresholds with platforms. Not based on their name or the symbolic associations related to them but based on their utility in the context of the associated milieu. This new perspective, I argue, allows us to overcome semantic barriers pertaining to these 'thresholds of interaction and allow us to reflect on the degree of determination of such platforms. Why isn't it possible to archive content on Facebook or Instagram? Why can we only 'like' or 'react' to content on Facebook but not rate it? I do not suggest that users should necessarily be able to rate pictures on Instagram. My point here is to show that our capacities to create an associated digital milieu is largely restrained. My question is therefore the following: is it possible, and if so, how will humans be able to emancipate from these restrictions? In other words, how can we become artisans of digital technologies?

The first section made us reflect on the circularity of retentions and protentions, as developed by Husserl and Stiegler. We saw that humans are able to exteriorize memories and act on their milieu. This hypomnesic milieu then acts as a support of further retentions and protentions and influences the process of human and technical individualization through association. Then, we briefly analyzed the characteristics of the digital milieus that constituted themselves with the development of digital technologies. In the last section, I showed that our means of interaction with our digital milieu is limited and that there is a need to understand these 'thresholds' correctly. I argued that these elements are not considered as what they actually are, that is, as mediation tools between individuals and their milieu. This leads to a misunderstanding, a misinterpretation of the digital tools available to us, and contributes to our detachment from a true digital culture. Ultimately, this prevents us from correctly create concrete associated hypomnesic digital milieu that would appreciate the full extent of our singularities. In the words of Hui and Simondon, we need to organize transindividual relations in order to resolve the problem of alienation (Hui, 2019, 199), that is, to develop what I suggest calling a "digitology".

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