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Mediology: A Duality Between Information and Knowledge

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ABSTRACT

Technological advancements have made many tasks that once seemed impossible remarkably simple even for children. For example, communicating with someone thousands of kilometers away while seeing them face to face is now effortless. Likewise, accessing any piece of music from around the world takes only seconds on a small screen, eliminating the need to travel or purchase physical tickets.

In this article, we explore the role of new technologies in information transmission while questioning their reliability in relation to human perception. To begin, we distinguish between "information" and "knowledge" using the example of a baby's weight evolution. This

approach helps us avoid a purely philosophical debate and instead focus on the practical implications of these concepts. We argue that with technological advancements, information has become more readily available, reducing the effort people once had to make to seek it out. This ease of access, while beneficial, raises concerns about the depth of engagement with knowledge. This is what has led many tasks to be taken over by artificial intelligence, which uses vast databases to perform complex tasks such as recognition, as well as producing music and writing. Next, we introduce Régis Debray's theory, "mediology", which examines the relationship between technology and ideas. Unlike a simple mediator (such as a journalist

or book writer), who merely facilitates the flow of news and information, the mediologist critically analyzes how technological progress influences transmission—and, consequently, how the circulation of ideas can be controlled. Through this concept, the philosopher presents the mediasphere, which can take different forms, such as the “primitive mnemosphere”, the “logosphere”, the “graphosphere”, and the “videosphere”.

*** Introduction**

When we start reading a contemporary article or book, it is common to notice that the author begins by discussing the impact of new technologies on a given subject or phenomenon. This observation reflects a larger trend that many researchers in various fields have begun to notice. Let us then consider the terms “new technologies” or “artificial intelligence”.

However, this is not always the case, because the term “new” is relative. For example, we could qualify the introduction of online payment in Tunisia as “new technology”, even if this practice has been in use for years in other countries. In addition, any technological advancement that simplifies the execution of a specific

task or presents alternative methods to serve humans are classified under the term artificial intelligence, but the field of AI is concerned not only with understanding, but also with creating intelligent entities, that are, machines capable of calculating how to act efficiently and securely in a wide variety of new situations (Stuart, Peter, 2021, p19)

Describing this phenomenon goes beyond simply explaining the similarities in the authors' writing style. Rather, it's about identifying something deeper, or even potentially concerning. We can go so far as to ask “what anger do they all have, sociologists, semiologists or psychoanalysts, in wanting to put science in their camp? It is enough to read current publications, or attend thesis defenses, to understand to what extent the social sciences remain feudal, full of quotations which are so many allegiances to the overlord and arguments of authority” (Daniel, 1998, p.1) Therefore, we can also mention the ease of obtaining information these days, which contrasts sharply with the usual where one had to spend hours between libraries, books and dictionaries to acquire something. Today, with just one click, millions of results are instantly displayed. This

logically makes learning easier since this technology saves us a lot of time.

However, first, when we search in books, we necessarily encounter a lot of new information. It even happens that we learn unexpected things, to the point of forgetting the initial reason for our research. Second, by reading, we discover how writers structure and present information, which develops our logical judgment and scientific analysis ability. Third, the effort put into research helps us understand and retain information better.

What is more serious is to wonder how reliable the new techniques or means of transmitting information are? If techniques and means of transmission already influence the circulation of information, the impact of artificial intelligence, which goes well beyond by generating information itself, could be even deeper and potentially more worrying?!

Before discussing the impact of technology, it is essential to understand what information is and to clarify the difference between information and knowledge. When we carry information, does it change it in any way? Is communication simply a means of conveying information, as in a conversation between two friends at a coffee shop,

or does it involve more than that? Can we include media like television or the internet in this reflection? If we want to explore these questions further, how should we go about exploring them rigorously and comprehensively?

*** Information and knowledge**

Nowadays, we often talk about how easy it is to learn information, as mentioned at the beginning of this article. The concept of databases and programs assisted by AI is also widely discussed, to the point of carrying out recognitions that we observe in our daily lives (such as facial recognition on smartphones or voice recognition with Shazam, etc.).

Does the person who has the information really have the knowledge? What is the link between data and information, and even more, between information and knowledge?

Rather than presenting classic definitions, and to avoid delving into philosophical concepts of knowledge or epistemology (We're not saying it's unimportant or useless; it's just to get to the main point of the article), we will follow a more concrete and pragmatic sequence: -

A parent measures their son's mass regularly, say every month. After some time it gets results like: -

Age of baby	Weight of Baby (kg)
0 to 1 month	3,2 - 4,2
1 to 2 months	4,3 - 6
2 to 3 months	6,1 - 8
3 to 4 months	8,1 - 10
4 to 6 months	10,1 - 12
6 to 9 months	12,1 - 14
9 to 12 months	14,1 - 18
Figure N°1	

The value 3.2 is without context, it has no meaning; it could be 3.2cats or 3.2 cakes. In this context, the kilogram gives meaning to the value.

However, even with unity, this data remains absurd if isolated, because it does not yet have a context. Indeed, saying “3.2 kg” alone does not yet tell us what it is or why it is important. It is only a piece of data, a number associated with a unit without interpretation or meaning

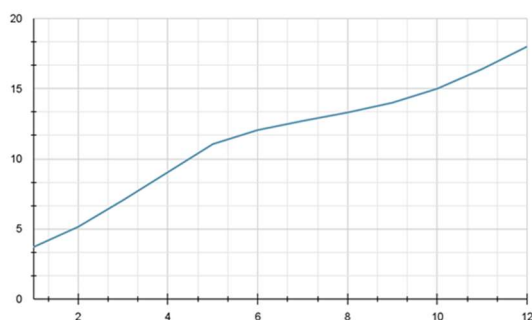


Figure N°2

The table containing these measurements can then be considered as a small database. The information is formed when we analyze this data

as shown in this curve and notice that each week, the value "3.2" increases, becoming 4, then 8, etc. This observation shows that the child's weight is increasing. This is where we talk about information: the raw data (the measurements) are analyzed and interpreted to draw a meaningful conclusion.

When it comes to knowledge, it goes beyond simple information. Let's take the example When, in another curve, we observe a decrease in the baby's weight in relation to his age, we can deduce that there could be an anomaly in fact, 90% of children who are born with a delay of intrauterine growth catch up to the normal height of children their age after one or two years¹

As Michelle Serre² sais: -

“For knowledge, we now have universal and immediate access to a considerable amount of information. But information is not yet knowledge. It is a bridge that has not yet been built. Knowledge is the next challenge for IT”³ (Abiteboul, Dowek, 2018).

That's why we chose not to delve into a philosophical perspective. Instead, through this example and Michelle's words, we wanted to highlight that not only is information not equivalent to knowledge, but knowledge itself can

also be lost in this vast sea of information. Nowadays, every student, from college to primary school, and even kindergarten, has access to an overwhelming amount of information that they could never fully absorb in a lifetime.

With that in mind, we can consider how new technologies and means of transmission influence the relationship between information and knowledge. Could other changes have occurred as a result of this development?

*** Mediology**

“I call mediology the discipline which deals with higher social functions in their relationships with technical structures of transmission”⁴(Régis⁵, 1994, p.21)

Indeed, we engaged in a mediological reflection by questioning the relationship between information as a social function and its transport as a technical structure of transmission to dig more into the questioning of its effect.

Mediology “would be the study of mediations by which “an idea becomes material force”, mediations of which our “media” are only a particular, late and invasive extension.”⁶(Régis, 1991, p.19)

A new term emerges in the philosopher's writing: mediations. Thus, the media are part of these

mediations, and mediology is dedicated to their study

“In mediology, medio designates as a first approximation the set, technically and socially determined, of the means of symbolic transmission and circulation. A set which precedes and exceeds the sphere of contemporary media, printed and electronic, understood as means of mass dissemination (press, radio, television, cinema, advertising, etc.)”⁷(Régis, 1991, p.20)

This means that the media we know today are a set of transmission techniques that go beyond the sphere of contemporary media. But what do we mean by “media sphere” in this context?

A “mediaphere” is linked to the requirements of existing techniques used during a given time period. We can thus distinguish several mediapheres: - (Régis, 2000, pp 44-45)

1- The primitive mnemosphere: Communication and transport of information are mainly done through orality and individual or collective memory.

2- The logosphere: Although orality still predominates, writing appears, but remains reserved for an educated minority, because most populations are illiterate.

3- The graphosphere: This period is marked by the invention of printing, which creates a new ecosystem between culture and technology, promoting the massive diffusion of ideas.

4- The videosphere: It corresponds to the audiovisual era, driven by technological developments, marking an era of the mind opened by electronics and, potentially, already changing under the influence of digital and bit.

Each “sphere” also has its specific media, characterized by (Vincent, 2004, p.21)

1- The techniques used: whether speaking, video, drawing, writing

2- Dissemination methods: such as radio, television, the Internet,

3- Storage media: CDs, books, magnetic tape, etc.

4- Language

“Anyone who follows efficiency from trace to trace wakes up at the moment when the interpreter of the great texts passes the baton to the “lover of anecdotes”. The philosopher explains to us where the concept of “civil society” comes from in Marx, the Hegelian lineage, the perils of reuse, etc. We wonder where the book went. German ideology: printed how? How many copies are printed? How many unsold items? Read by whom, and how? How in

which journals? Repeated, imitated, distorted by whom? In short, we take the problem, all the problems, head on.

The mediologist is a dog. He prides himself on looking down, sniffing in corners.”⁸ (Régis, 1991, p.84)

A mediologist is someone who focuses on examining the smallest details, asking questions about how information is transmitted. In this framework, truth and reality are no longer obvious, because the emphasis is on “Mediations”. Our problem can then be resolved through research or a mediological analysis.

To summarize and better understand mediology and its elements, let's take the following example: a person listening to music from their phone or any other device or speaker. It's essential to focus on the smallest details of this experience, and we'll see why: -

First, we can consider the journey of music from the singer, through an application, to the listener. Can we then consider YouTube or Spotify as a medium in this case?

Not really, because there is no single medium; rather, it is a system, as illustrated by the recent concept of “mediasphere”. By trying to isolate a single medium, we end up with a complex chain:

the throat of the singer, which produces the sound, the microphone which transforms the acoustic energy into an electrical signal, but also the air necessary to transport the sound, the psychological state of the singer, his socio-cultural environment, without forgetting the mixing, the mastering, then the transformations are output through the speaker or phone speaker.

This description aims to underline the complexity of the notion of medium and mediations: the more transmission techniques evolve, the more dense and tangled the chain becomes. Thus, each actor in this chain, whether the singer, the sound engineer, the journalist who writes an article or the person responsible for sharing the song, etc, can be considered as a mediator. But then, what is a mediologist?

“the mediologist is the one who reflects on the mediators. It may be a mediator who reflects on himself and, basically, mediology was perhaps born like that. ?”⁹ (Nicole, 1997)

This leads us to say that a mediator, whether a sound editor, a director or anyone involved in transmission techniques, is a mediologist if he thinks about the way in which transport of information influences it.

Finally, mediology is not a media science... It is therefore not a new science or discipline; this neologism has the function of asking questions without focusing on truth or reality. Rather, mediology seeks to understand the logic and power of the media, this almost “magical” force that has sometimes convinced people to commit extreme acts, such as killing. It's a question of understanding the influence of media beyond its simple content.

Through this new reflection, we aim to explore in our upcoming research the influence of media on music, particularly Tunisian music, through the The 1932 Cairo Arab Music Congress¹⁰ that took place in Cairo, Egypt. Our goal is to better understand how certain individuals and companies (mediologists) may intentionally modify local music for commercial purposes and, in doing so, reshape the collective memory of local communities. Did they succeed? Or did they fail?

This will lead us to complete our thesis, under the supervision of Marc Chemillier¹¹, which focuses on improvisation within Tunisian modality using the Djazz¹² software. Our aim is to preserve the specificity of our traditional music and present it to the world through AI, before someone outside this cultural identity

does so, potentially causing distortion, whether intentional or not.

* Footnotes

Figure N°	Description	Source
1	Table representing the weight of the baby depending on age	❖ https://monadorablebebe.com/blogs/news/tableau-quantite-lait-bebe-poids-guide-complet-pour-une-alimentation-optimale (accessed 11-10-2024)
2	Baby weight evolution curve in kg depending on the month	Drawn personally

1- Intrauterine growth: Intrauterine growth restriction (IUGR) is a condition where a fetus does not grow as expected during pregnancy ([https://www.inserm.fr/dossier/croissance-et-troubles-croissance/#:~:text=On%20consid%20er%20qu%27un%20enfant,dans%20les%20mois%20qui%20suivent.\(accesed 01-10-2024 \)](https://www.inserm.fr/dossier/croissance-et-troubles-croissance/#:~:text=On%20consid%20er%20qu%27un%20enfant,dans%20les%20mois%20qui%20suivent.(accesed%2001-10-2024%20)))

2- Michelle Serre: Michelle Serre (1930-2019) est un philosophe et historien des sciences français

3- Original text: “Pour la connaissance, nous avons maintenant un accès universel et immédiat à une somme considérable d’information. Mais l’information, ce n’est pas encore la connaissance. C’est un pont qui n’est pas encore bâti. La connaissance est le prochain défi pour l’informatique”

4- Original text: “J’appelle médiologie la discipline qui traite des fonctions sociales supérieures dans leurs rapports avec les structures techniques de transmission”

5- Régis Debray: Régis Debray, né le 2 septembre 1940 à Paris, est un écrivain, philosophe

6- Original text: “se voudrait l’étude des médiations par lesquelles «une idée devient force matérielle», médiations dont nos « médias » ne sont qu’un prolongement particulier, tardif et envahissant.”

7- Original text: “Dans médiologie, médiologie désigne en première approximation l’ensemble, techniquement et socialement déterminé, des moyens de transmission et de circulation symboliques. Ensemble qui précède et excède la sphère des médias contemporains, imprimés et électroniques, entendus comme moyens de diffusion massive (presse, radio, télévision, cinéma, publicité, etc.)”

8- Original text: “Qui suit l’efficacité de la trace à la trace se réveille au moment où l’interprète des grands textes passe le relais à «l’amateur d’anecdotes». Le philosophe nous explique d’où vient le concept de « société civile » chez Marx, la filiation hégélienne, les périls du réemploi, etc. Nous, on se demande où le livre est allé. L’idéologie allemande: imprimée comment? Tiré à combien

d'exemplaires? Combien d'inventus? Lu par qui, et de quelle façon? Comment dans quelles revues? Répété, imité, déformé par qui? Bref, on prend le problème, tous les problèmes, par le petit bout.

Le médiologue est un chien. Il met son orgueil à regarder par terre, à renifler dans les coins.”

9- Original text: “le médiologue est celui qui réfléchit sur les médiateurs. Ce peut-être un médiateur qui réfléchit sur lui-même et, au fond, la médiologie est peut-être née comme cela. ?”

10- The 1932 Cairo Arab Music Congress: The Cairo Congress of 1932 brought together musicologists from the East and West, as well as musicians from the Arab world. It witnessed different visions of future Arab music confronting each other: conservatives vs reformists who wanted to use the tools of Western music, to adapt to radio and cinema. On this occasion, numerous recordings by various Arab musicians were made...
(<https://sursock.museum/content/1932-cairo-arab-music-congress>)
(accessed 01-12-2024)

11- Marc Chemillier: Marc Chemillier, musicien, informaticien et anthropologue, a étudié le piano jazz (Schola Cantorum, CIM). Il est entré à l'ENS de Fontenay-aux-Roses

en mathématiques en 1981 et a étudié l'harmonie-contrepoint au CNSM de Paris. Il a fait une thèse de doctorat en collaboration avec l'IRCAM.

12- Djazz: The Djazz software is an « artificial improvisor ». More concretely, this means that it can record on the fly the sequence played by a musician and generate new improvisations by recombining fragments of the recorded sequence as in a « cadavre exquis ». (<https://digitaljazz.fr/#about>)
(accessed 05-01-2025)

*** Here you find the original bibliography (in french)**

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<https://theconversation.com/conversation-avec-michel-serres-les-mutations-du-cognitif-93214>
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(Conversation avec Michel Serres: les mutations du cognitif)

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(Régis Debray du médiateur au médiologue Nicole Denoi)

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