

# THE MYTH OF THE COMPUTATIONAL CLOUD: A PROPOSAL FOR ANALYSIS WITH A DISCURSIVE APPROACH

O MITO DA NUVEM COMPUTACIONAL: UMA ABORDAGEM SOB A PERSPECTIVA DA  
ANÁLISE DO DISCURSO

EL MITO DE LA NUBE COMPUTACIONAL: UN ENFOQUE DESDE LA PERSPECTIVA DEL  
ANÁLISIS DEL DISCURSO

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**ABSTRACT:** Based on research conducted by Croker (2019) and Herr (2020), in this article we present a proposed analysis of a discourse approach to the emergence and use of the term "cloud computing" and its derivative "saving in the cloud". The study is supported by three concepts covered by the epistemological field of French Discourse Analysis: 1) the will to truth (Foucault, 1999); 2) the interdiscourse (Maingueneau, 2008); and 3) the sociodiscursive imaginaries (Charaudeau, 2017). We proceeded to the discourse analysis of an advertising piece, a Brazilian TV news report about the emergence of cloud computing, and a cartoon focused on the same theme. The results show that the metaphor of the cloud as a place of lightness and superiority, referring to the idea of heaven and paradise, camouflages the reality of cloud computing as a private repository allocated in robust computer infrastructures that increasingly cause dependence and obtain information from users for use in various profitable actions for large technology companies in their virtual environments.

**KEYWORDS:** Cloud computing. Discourse Analysis. Enunciation. Interdiscourse. Sociodiscursive Imaginaries.

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RESUMO: A partir de pesquisas realizadas por Croker (2019) e Herr (2020), neste artigo apresentamos uma proposta de análise de abordagem discursiva do surgimento e uso do termo “computação em nuvem” e seu derivado “salvar na nuvem”. O estudo está amparado em três conceitos abarcados pelo campo epistemológico da Análise do Discurso de linha francesa: 1) a vontade de verdade (Foucault, 1999); 2) o interdiscurso (Maingueneau, 2008); e 3) os imaginários sociodiscursivos (Charaudeau, 2017). Procedemos à análise discursiva de uma peça publicitária, uma reportagem de um telejornal brasileiro sobre o surgimento da computação em nuvem e uma charge focada no mesmo tema. Os resultados demonstram que a metáfora da nuvem como um lugar de leveza e superioridade, remetendo à ideia de céu e paraíso, camufla a realidade da computação em nuvem como um repositório privado alocado em robustas infraestruturas de informática que, cada vez mais, causam dependência e obtêm informações dos usuários para utilização em variadas ações lucrativas para as grandes empresas de tecnologias em seus ambientes virtuais.

PALAVRAS-CHAVE: Nuvem computacional. Análise do Discurso. Enunciado. Interdiscurso. Imaginários Sociodiscursivos.

RESUMEN: Basándonos en las investigaciones realizadas por Croker (2019) y Herr (2020), en este artículo presentamos una propuesta de análisis discursivo del surgimiento y uso del término "computación en la nube" y su derivado "guardar en la nube". El estudio se apoya en tres conceptos abarcados por el campo epistemológico del Análisis del Discurso de línea francesa: 1) la voluntad de verdad (Foucault, 1999); 2) el interdiscurso (Maingueneau, 2008); y 3) los imaginarios sociodiscursivos (Charaudeau, 2017). Se procedió al análisis del discurso de una pieza publicitaria, un reportaje de un noticiero brasileño sobre el surgimiento de la computación en nube y una historieta enfocada en el mismo tema. Los resultados muestran que la metáfora de la nube como un lugar de ligereza y superioridad, que remite a la idea del cielo y el paraíso, camufla la realidad de la computación en la nube como un repositorio privado asignado en robustas infraestructuras informáticas que cada vez más causan dependencia y obtienen información de los usuarios para utilizarla en variadas acciones rentables para las grandes empresas tecnológicas en sus entornos virtuales.

PALABRAS CLAVE: Computación en la nube. Análisis del discurso. Enunciado. Interdiscurso. Imaginarios sociodiscursivos.

## 1 OVERVIEW

“There is no cloud, just other people’s computers.”

(HERR, 2020, p. 2)

When the remote class ends, a student asks the teacher, who had just set a task for the next meeting, "How will we send you the answers?" The teacher promptly replies, "Save in the cloud!" The expression "save in the cloud", repeated countless times in our days, is the object of analysis of this paper. In ordinary usage, the phrase refers to saving a file somewhere on the Internet, a server that belongs to someone or some company, which is located at some address. But this information does not seem important when it is said, "I'm going to save it in the cloud". There is a presupposition and an implied understanding that the file will be delivered and be safe, no matter by whom, how, or where.

The term "cloud storage" refers to the act of digitally virtualizing a file, be it text, audio, image, or other, in databases that use Cloud Computing technology (Croker, 2019). Cloud Computing involves both hardware and software, as well as human interaction, and enables ubiquitous file storage and processing. It is a highly configurable, on-demand computing service that provides access to networks, servers, and applications (Mell; Grance, 2011).

Saving in the cloud refers to every mode of virtualization of digital files undertaken nowadays, whether done by individuals or companies, on private or public servers, such as, for example, the Google Drive storage service, which, by 2018, had approximately one billion users (Lardinois, 2018).

The expression "cloud computing" was created as a metaphor, some decades ago, for a series of structural technical procedures that referred to the beginning of the internet. How did this expression become so popular that it became trivial and popular? Is this metaphor just a banal expression or does it carry political and economic biases that are often contradictory? Pondering these two questions is the aim of the present study.

From a perspective based on the French Discourse Analysis, this article is organized as follows: in the next section, we build a brief genealogy of the expression and its derivatives and analyze possible power relations permeated in this enunciative act. Then, we present the notions of sociodiscursive imaginaries and interdiscourse, which will serve as a basis for the discourse analysis of three texts of different genres and semiotics that use the expression "save in the cloud" or allude to it in some way. These texts are an advertising piece, a Brazilian TV news report about cloud computing, and a comic strip.

## 2 A POSSIBLE GENEALOGY OF THE EXPRESSION "SAVE IN THE CLOUD"

From its emergence to its current popularization, the use of the term "cloud" in the field of technology has undergone a discursive transformation that takes place in three very characteristic phases. The term originates as a symbolic and iconographic representation and, from procedures and socio-technical arrangements, it naturalizes as a metaphor to later transmute itself into a noun (Croker, 2019, p. 48). The first phase refers to the visual and iconographic representation of the cloud as early as the 1970s. The second migrates to the use of the adjective "cloud computing" in the period between 1990 and the early 2000s. Finally, in the third phase, the term becomes a noun, "the cloud" or "in the cloud," with the emergence of large digital file virtualization servers and the popularization of the term in the early years of the 21st century. Let's look separately at each of these phases.

The first representations of cloud computing iconography predate the Internet and date back to the development of ARPANET - Advanced Research Projects Agency Network - developed by the United States Department of Defense, where the initial protocols for what would become the worldwide network we know today were established (Herr, 2020).

Graphs of interconnected machinery were called clouds because they illustrated the possibility of a computer connecting to other computers through transmission networks, even if they were geographically distant from each other. In the early days of research, the iconographic representation of computers connected by cables created drawings using lines, squares, and especially oval figures, which referred directly to the shape of clouds. Such cartographic illustrations disregarded the territories crossed by the infrastructures, which implied that these structures hovered over the Earth, like clouds. But in the reality of the Internet today, above the underground and undersea cables that connect different hardware and are represented in graphs, pass people, rivers, roads, forests, oceans, cities, lives of all kinds.



into three types of data: user data, derived data, and system data. The first, user data, concerns all kinds of information sent by customers, such as e-mails, documents, images, and files in general. The second type, derived data, is related to all the information that the service providers can extract from the users' data. In this case, artificial intelligence is often used to do a kind of mining, selection, and treatment of the information. Access profiles, means of payment, geo-referencing, and devices used are just a few examples of the countless data that are extracted through research. The third type of information is system data, that is, software offered and/or used on and by the platform.

The profit-making of this type of technology company does not only come from the allocation of servers and provision of services but also from the processing and commercialization of information inserted in the digital platforms. This process is known as data mining (Corrêa; Sferra, 2003). In the free versions of the services, the company profits from users' data that voluntarily provide countless pieces of information, which are often used in advertising actions directed to each specific customer profile.

Johannessen (2019) states that this type of aggressive marketing makes use of algorithms that lead the consumer to a highly customized browsing experience through companies' virtual environments (websites or apps), offering exactly what the user is looking for or usually consumes. One example is that when cloud computing is used, algorithms capture user and browsing information (user data), create preferences and location files, and use this data to profile the user in order to offer them more and more customized products. Besides knowing the preferences of each user, the algorithms also know which are the best-selling products, the market trends, and those that can be offered for compatibility with other purchases, such as a tie-in sale. Besides this economic bias, political issues are also involved in the use of user data available in data storage services, among them the prominent phenomenon of the spread of fake news.

Therefore, the way these three types of information are processed is generating political discussions and the creation of new legislation in many countries. Where user information is stored is one of the main points of discussion. As an example, in the 2010s, several countries conducted intense rounds of updating their respective legislations to improve their legal systems in relation to the subject. In 2017, France began requiring that the country's users' information be processed and stored on French soil. Vietnam adopted a similar law in 2018, in which it requires all Vietnamese users' information to be allocated and processed on its territory. Also, China and the United States have required since the mid-2000s that user, derivative, and system data be stored and processed in each country's respective territory (Herr, 2020). The biases of legislation passed and implemented have geopolitical influences on the dynamics of each nation. Energy costs, access to information, employed labor and the logistical chain of supplements are some of the issues that demonstrate the concreteness of computing clouds, as we will explain in the following section.

### 3 WHAT ARE COMPUTATIONAL CLOUDS MADE OF?

The large data storage and processing centers are spread unevenly across different regions of the world. Most are located in the northern hemisphere. According to Herr (2020), the five largest information storage and processing companies (Alibaba, Amazon, Google, IBM, and Microsoft) have 387 data centers spread across the globe, of which: 133 are in East and Southeast Asia, 119 are in North America, 90 are in Europe, 20 are in Oceania, 10 are in South America, 8 are in the Middle East, and 7 are in Africa. In South America, Amazon, Google, IBM, and Microsoft operate, and most of the servers are located in southeastern Brazil, around the city of São Paulo.

What we call "cloud" most often are large buildings of reinforced concrete, with walls and reinforced foundations - in case of a catastrophe - filled with thousands of CPUs, GPUs, memory RAM, power supplies, switches, motherboards, coolers, and fiber optic cables that form the hardware of the internet servers. These huge and heavy buildings, which can be several stories high and occupy the area of a soccer field, are located near the main and most robust Internet branches of each region, known as backbones. These mega-structures are highly energy-dependent. According to The New York Times (Lohr, 2020), data centers currently consume 1% of the energy produced in the world. To save on the energy and structural cost of cooling the machines, many servers are built in the coldest regions of the planet, such as the Arctic, for example.

## 4 A DISCURSIVE VIEW OF THE COMPUTING CLOUD

### 4.1 CLOUD AS ENUNCIATION

The enunciation and its relationship with the material world, with the dynamics of power, with what came and what is to come are themes very dear to Foucault (2008). The author considers the emergence of an enunciation as a historical event, a phenomenon, an action that in its genesis can be discrete, subtle, or even violent, constraining and that presents itself in acts of language.

To Foucault, the enunciate is characterized by being linked to four basic functions of discourse. First, as Fischer (2001) points out, the enunciate would be the reference to something we identify. Saying "I will save this file in the clouds" directly denotes the act of saving, being able to access and process files on remotely located servers. The expression, at first glance abstract, in the current context is meant to denote security and reliability, since there is the premise that any digital archiving activity must be embedded with protocols that will make the retrieval of the file secure and accessible only to those users entitled to such access.

The second characteristic of the enunciation is the delimitation of the subject or subjects that utter(s) that discourse, the subjects that occupy the place of speakers of the enunciation. Cloud symbolism, in the beginning, was used only by a select group of scientists who participated in the first computer network experiments. In the mid-1990s and 2000s, the term "cloud computing" was created and began to appear as a characteristic of services offered by companies, soon being appropriated by marketing discourses and, later, becoming naturalized in the language of almost everyone who, in a way, is a user of digital technologies.

The third characteristic of the enunciation is the fact that it does not exist in a watertight, impermeable, immutable way. The enunciation is always embedded, engendered, interconnected to other enunciations and to diverse discursive formations. Between the infinitude of the cosmos and the earth we inhabit, there are clouds; when we look at the sky, what we see, anywhere in the world and at different times, are clouds in their vast formats. Countless cultures project the sky as a space of transcendence. In Christianity, the predominant religion in the West, heaven is synonymous with paradise, the home of divinities, a sacred place.

Finally, the fourth characteristic of the enunciation is the materiality of the discourse, the concrete forms in which it materializes. Large technology companies launched their digital file virtualization services in the first decade of the year 2000, and in this period, the cloud metaphor was architected and consolidated in advertising pieces and technical reports. Stylized clouds can be found in the visual communication of platforms such as Oracle Cloud, Microsoft Azure, and IBM Cloud.

Enunciative acts function permeating discursive relations, marking the modes of discourse, to the point of becoming the sustaining structure of certain communicational practices. If the enunciative act "saving in the clouds" left or even overlapped very specific discursive fields, such as the technical-scientific discourse, for example, and became fluid and obvious in everyday dialogues, it is because such discursive domains no longer belong to groups of researchers and scientists, instead they have become to make, from a true informational technological revolution, part of everyday life of citizens.

Analyzing the use of the term "save in the clouds" from a socio-historical perspective makes it possible to see that there is a huge difference between a scientist, who drew diagrams of connections between machines, cables, towers, and referred to such graphs as clouds, back in the 1970s, and the contemporary citizen, from various and distinct areas, who says he/she will save a file in the clouds. The first case refers directly to physical and structural aspects of computer networks, which, in that context, drawn on paper in the form of graphs, were called clouds, while the second situation appropriates precisely the allegorical and abstract dimension of the clouds – something that hovers over us – to refer to the act of virtualizing digital files on remote computer servers.

### 4.2 THE TRUTH OF A TIME

Foucault (1999) analyzes the processes of how discourses connect to instances of power to produce effects of truth, what the author calls "will to truth". These procedures, external to the discourses, but which exert influence on them, relate to the historical moment when a particular discursive act gains the status of hegemonic truth, of moral truth, which organizes social contracts, which produces

reality (Ferreira; Traversini, 2013). This production of truth is something deliberate, often induced and incorporated into the discourses, rarely randomly and in general obeying power dynamics. This truth can have a dichotomous character, evoking even the myth of good and evil, disregarding complex and multifaceted analyses of reality. About the will to truth, Foucault (1999) states that:

[...] like the other systems of exclusion, it rests on an institutional support: it is at the same time reinforced and reconducted by a whole compact set of practices like pedagogy, of course, like the system of books, of publishing, of libraries, like the learned societies in the past, the laboratories today. But it is also reconducted, more deeply, no doubt, by the way knowledge is applied in a society, how it is valued, distributed, shared, and in some sense attributed. (Foucault, 1999, p. 17)<sup>1</sup>

The enunciative acts surrounding the computational cloud emerge strongly as wills to the truth. New contemporary myths emerge there, soft, ethereal metaphors to designate heavy, expensive and powerful structures. The action of the discourse for a will to truth about the computational cloud materializes in the thousands of videos and texts by experts or supposed experts that populate socio-technical networks, in several languages, explaining the advantages and/or disadvantages of a company or an individual user opting for the virtualized storage service. The ambiguities of the choice and appropriation of the metaphor are pointed out by Croker (2019) in the following excerpt:

The metaphor of the cloud has always been, and continues to be, a marketing tool for cloud operators. The use of the metaphor was not created for the benefit of the end-user. The cloud metaphor works primarily in the service of marketing departments as shorthand to disguise the politics and values embedded inside networks. The use of metaphor often removes important details about how information is stored, shared, and moved across networks. Putting data 'in the cloud' lacks a specificity that makes it harder to ask questions about control, regulation, and possibilities for alternative cloud arrangements. I argue that the history of the cloud has demonstrated that major cloud providers have purposely embraced the metaphor of the cloud over other metaphorical frameworks in order to discourage critique. (p. 113)

#### 4.3 INTERDISCOURSE AND SOCIODISCURSIVE IMAGINARIES

Two contemporary concepts that have changed the way objects are selected and investigated within the scope of Discourse Analysis research are interdiscourse and sociodiscursive imaginaries. The first one is an update made by Dominique Maingueneau, in 2008, of the notion of the primacy of interdiscourse, previously proposed by Pêcheux. The second one is the notion of sociodiscursive imaginaries proposed by Patrick Charaudeau (2017). We will look at each of them separately.

In general, Maingueneau's (2008) conception of interdiscourse presupposes a discursive memory that people bring with them from baggage containing everything that, throughout their life, they have read, heard, and seen and that derived from sources such as family, State, church, and today, more than ever, the media and the Internet, among other sources. According to Maingueneau (1997), this discursive memory is made up of formulations that are repeated, refuse, and transform other formulations. Thus, there are discourses within others, in those that reaffirm and those that reject each other, in a network or an infinite dialogue. This network, then, would be the interdiscourse and its study came to have primacy in research in this epistemological field. Possenti (2003) states that under different names – polyphony, dialogism, heterogeneity, intertextuality – each one implying some specific bias, interdiscourse is predominant until today.

The primacy of interdiscourse is an idea that we also adopt here because we understand that, by studying the heterogeneity that permeates the three texts of different genres, semiosis, and authors that we selected as our objects of analysis, we will be able to

<sup>1</sup> Authors' translation to the original: como os outros sistemas de exclusão, apóia-se sobre um suporte institucional: é ao mesmo tempo reforçada e reconduzida por todo um compacto conjunto de práticas como a pedagogia, é claro, como o sistema dos livros, da edição, das bibliotecas, como as sociedades de sábios outrora, os laboratórios hoje. Mas ela é também reconduzida, mais profundamente, sem dúvida, pelo modo como o saber é aplicado em uma sociedade, como é valorizado, distribuído, repartido e de certo modo atribuído (Foucault, 1999, p. 17).

identify how the discourses coming from technology companies are manifest in the texts. In addition, we will be able to observe whether there is adherence or contestation to the imagery of the cloud as a symbolic, celestial, superior, protected, and free place, a place very different from the complex and gigantic computer networks built in robust buildings and belonging to transnational corporations.

Here we enter the second concept that will be useful to us in the analyses: sociodiscursive imaginaries. This notion proposed by Charaudeau (2017) refers to interpretations of reality shared by certain social groups and disseminated in specific discursive domains, such as religion, politics, art, economy, and technology. According to the author, since reality seems too complex to be perceived by an isolated man, people use the sociodiscursive imaginaries produced by instances of power to create meaning to their experiences. In addition to shaping their perception of the world, the knowledge and discourses that people have adhered to over the years, consciously or unconsciously, might directly interfere with their choices and actions, also shaping their lives.

This knowledge contains sociodiscursive imaginaries that are disseminated by institutions that would function, according to Charaudeau, as regulatory devices, such as churches, the State, science, social groups, artistic or political currents, and large corporations, among others.

The imaginaries support adherence to a certain way of seeing the world and can be identified not only in the texts produced by the regulatory device but also in the discourse of its followers or even its opponents. Therefore, for Charaudeau (2017), the imaginaries are engendered by the discourses that circulate in social groups, organizing themselves into coherent systems of thought, creators of values, playing the role of justification of social action and being deposited in the collective memory.

In this sense and from the perspective of interdiscourse, sociodiscursive imaginaries would manifest in the discourse of people and institutions and would reveal their worldviews, their individual and collective identities, their adherence or refutation of a dominant discourse and the evaluation they show of their social activities.

In our case, the discursive domain of technology produces discourses that transmit certain sociodiscursive values and imaginaries that can be adhered to or rejected by cloud computing users. One of these imaginaries, for example, is that of clouds as an ethereal, superior, protected, and free place, which can mask the reality of applying user data for advertising, economic, and political purposes.

In addition, using supposed knowledge, companies will be able to reinforce the imaginary of technological supremacy by building a discourse in which cloud computing would be the inevitable future of humanity, without borders, without storage limits, accessible anywhere at any time. What remains to be known? According to Charaudeau (2017), these types of knowledge feed the imaginary, evidently, playing many times with these categories, erasing the clues, making belief pass for knowledge.

Therefore, through the analysis of the interdiscourse from the three texts of different genres and semiosis that use the phrase “save in the cloud” or allude to it in some way, we intend to investigate how this imaginary of the cloud as a “good place” and the supremacy of cloud computing appears in the texts, how it is approached, if it is refuted or adhered to by the instance that produces it. In the following section, we will proceed with the analyses.



## 5 ANALYZES

The corpus of this article consists of three texts related to cloud computing. We decided to focus on the technology company Google and chose an advertising piece about their service. The other texts for analysis are a Brazilian news report broadcast by *Jornal da Globo* on May 6, 2008, focusing on Google, and, finally, the comic strip “Bytes de Memória”, by the comic artist Gus Morais, published in Folha de S. Paulo online.

### 5.1 ADVERTISING PIECE

The piece we selected for analysis was published on the official Google Cloud Brazil page on Facebook, on March 31, 2021. Let's focus on Image 2, below.



**Image 2:** Google Cloud advertisement

**Source:** Facebook/ Google Cloud Brazil

World Backup Day is an international organization to encourage technology users to make a backup of their digital files saved on a device (such as cellphones or computers) on another device, to be able to recover them in case of loss, theft, or damage of the original device. In the advertisement for Google Cloud, the company seems to join the campaign, but, in fact, there is an effect of irony, as the user is expected to understand exactly the opposite, that is, that there is no need to worry about the backup if the files are in the cloud. The caption that accompanies the piece makes this even clearer: “Have you ever hit that panic of thinking you've lost all your files? Don't go through this again. Enter our #cloud storage solutions page and stay cool”<sup>2</sup> (GOOGLE CLOUD BRASIL, 2021).

In this case, the irony reinforces the imagery of the cloud as a superior technology, more secure and stable for users. The advertising piece follows a clean pattern, with ample white spaces, a simple color palette and a focus on the stylized image of a female figure, jumping into the sky and depositing a huge folder in the cloud, which in operating systems such as Windows, for example, is the icon that symbolizes the repository of files of different orders. The image is complemented by the caption that says: “stay cool”, reinforcing the imagery of security supposedly offered by cloud storage.

This imaginary of the superiority of cloud storage over local backup is a marketing ploy that makes a belief (that the cloud is safer than local backup) pass for knowledge, scientific knowledge. Returning to Foucault, we can think that the marketing discourse, resorting to supposedly specialized knowledge, coming from one of the largest technology companies in the world, has a will to truth

<sup>2</sup> Authors' translation to the original: Já bateu aquele pânico de achar que perdeu todos os seus arquivos? Não passe por isso de novo. Entre na nossa página de soluções de armazenamento na #nuvem e fique de boa.

that makes one believe that the cloud is safer than other storage technologies.

The iconography of the cloud is also present in the Google Cloud logo, in the upper left corner of the piece. The colors follow the pattern of the icons of the other services offered by the company, such as email (Gmail), which emulates an envelope, or its videoconferencing service (Google Meet), which alludes to a video camera, all in red, yellow, blue, and green. It is noteworthy that the logo is one of the few with rounded contours among the company's other icons, referring to the idea of softness and reinforcing the imagery of the cloud as a place of lightness, of ascending to the heavens.

## 5.1 NEWS REPORT

The second piece we selected for analysis is a report<sup>3</sup> which was broadcast on the May 6, 2008, edition of *Jornal da Globo*, the last newscast in the daily schedule of the homonymous Brazilian broadcaster on open TV. *Jornal da Globo* is a traditional news program, with about 40 years of existence. According to the broadcaster, *Jornal da Globo* “[...] connects what was most important in Brazil and in the world and gives an analytical look to the issues at hand”<sup>4</sup> (COMPUTAÇÃO..., 2021, online).

The report is signed by international correspondent Rodrigo Alvarez and lasts 6 minutes and 24 seconds, including narration, animation, infographics, interviews, and recorded external scenes. Considering the scope of the news, the report supposedly had the objective of presenting, in a more in-depth and analytical way to the viewer, a type of technology in an initiatory stage.

In the introduction made by the anchors, the expressions “[...] the future of the computer” (04sec) and “informatics in the clouds” (12sec) appear, which corroborate the imaginary of superiority and lightness of the technology to be presented. The report begins with a narration by correspondent Rodrigo Alvarez (19sec) and shows scenes from one of Silicon Valley's technology parks that resemble a university campus, with young people walking through green areas or working outdoors on their computers, in a very relaxed way, reinforcing the imagery of technology companies as places where the creativity of genius people can flow freely. The place is the Googleplex, a set of buildings where Google's headquarters are located, in the city of Mountain View, California.

In several parts of the report, the correspondent uses expressions to refer to cloud computing that reinforces the imagery of this technology as something essentially positive, superior, revolutionary and the only possible way for the future of technology, without any analytical and critical manifestation. This imaginary can be seen, for example, in the following excerpts from the correspondent's own words: “[...] Google engineers walk with their heads right above the mountains” (39sec); “[...] they now live in the clouds and are determined to take us with them” (46sec); “[...] cloud computing is a concept, it is the future” (54sec); “[...] everything hovering over us” (01min14sec); “[...] engineers with their hands on keyboards and their heads in the clouds” (06min. 02sec); “[...] everyone's mission here is to invent the future” (06min. 23sec); among others. The figurative language of the narrated text goes beyond the metaphor of clouds and says that the speed of access by users to the recorded files will be “[...] as fast as a thunder” (01min. 22sec).

Next, there is an interview with the president of Google at the time, Eric Schmidt (01min. 47sec), who, according to the correspondent, would speak for the first time to a TV in South America. Schmidt reinforces the imaginary of the supposed superiority of cloud technology, criticizing the supposed security fragility of offline saving methods, contributing to the discourse defended in the advertising piece that we analyzed in the previous section. He also emphasizes another supposed advantage of cloud computing: cheaper computers, which could have minimal configurations if users opted for cloud technology.

In addition to reinforcing the imaginary of technological superiority and the metaphorical view of the lightness of clouds, the report adds an economic bias to the list of advantages for the user, without any critical note or comment that could show different points of view of this type of technology. The report ends with a kind of praise for the company Google (04min. 30sec.), emphasizing the special treatment given to its employees, giving them paid time for personal projects and investing in their creativity and innovation.

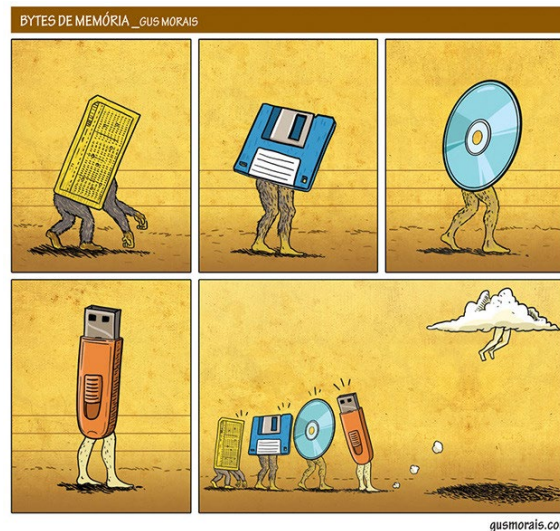
<sup>3</sup> Available at: <https://www.youtube.com/watch?v=BgTpA5kIk2U>.

<sup>4</sup> Authors' translation to the original: amarra o que houve de mais importante no Brasil e no mundo e confere olhar analítico aos assuntos em pauta.

If the report presented a more analytical perspective, as its editorial line proposes, it could question, for example, whether the cheaper computers would not be compensated, by technology companies, in the form of payment of subscriptions for the use of services in the cloud or by selling advertising and database access, as we argued earlier. That is, in the end, the user would continue to provide exorbitant profits for companies. The report could also investigate whether other company facilities that subsidize cloud computing (such as data centers) are as light and similar to a university campus as the Googleplex or if the complex only works as a mask for the infrastructure necessary for the company's business, the same way the cloud metaphor functions as a mask for this type of networked technology.

## 5.2 COMIC STRIP

The comic strip chosen for investigation is by Gus Morais, cartoonist responsible for the column “Bytes de Memória”, in the “Tec” section of the newspaper Folha de S. Paulo. It was published on the blog “Depósito de Tirinhas”, on March 23, 2016, and is also available online for Folha de S. Paulo subscribers.



**Image 3:** Comic strip from the column “Bytes de Memória”

**Source:** Morais (2016)

The comic strip is a parody in which, as a metaphor for human evolution, the artist proposes an evolutionary lineage for computer data storage devices. In the first frame, we can identify the legs and arms of a curved monkey and the torso in the shape of a punched card, one of the first data storage technologies known, being considered one of the predecessors of computer memories. In the second frame, we see the legs of a monkey with less hair and more erect that supports a trunk in the form of a floppy disk, a magnetic storage device widely used by users of digital technology in the 1980s and 1990s. Then, the narrative continues: legs increasingly closer to the human appearance and the torso alternating the technologies that emerged, the CD/DVD and the USB drive. In conclusion, the four previous devices watch in amazement at the rise of a type of technology so superior it could even fly: cloud storage.

From the discursive point of view, we can see that the comic strip adheres to the discourse of computer companies and corroborates the imaginary that cloud storage technology would be so unquestionably superior, lighter, and, above all, revolutionary, that it would astonish all the others that preceded it. What calls our attention even more, in this case, is the fact that the instance of text production is no longer the technology company, but rather an artist, a user, and that it is posted in a vehicle that presents itself as an expert on the subject, a journalistic section on technology. As in the case of the *Jornal da Globo* report, the piece does not lead to critical reflection and serves as another reinforcement in the interdiscourse that elevates cloud storage to an unquestionably positive type of technology.

## 6 CONCLUSIONS

In this paper, we propose a discursive approach analysis for the emergence and use of the term “cloud computing” and its derivative “cloud saving”. Supported by French Discourse Analysis, we focused our perspective on the interdiscourse that permeated three communication objects: an advertising piece, a news report, and a comic strip. The results showed that the cloud imaginary distances itself from the understanding of a private technology allocated in physical computing megastructures in which users remotely store their files and, consequently, transfer their information for use by large technology companies in their various highly profitable businesses in virtual environments.

Clouds fly free in the sky. Amorphous, they let themselves be carried away by the winds. They are light, unstable, and transient. They orbit the terrestrial troposphere, can cloud over or even come to land in territories, collapse on ice or precipitate in water. When rubbed, they release lightning. Clouds are symbols of the planet’s fertility, of the complete water cycle, which allows for such natural abundance. They also encompass numerous cosmological myths. Cloud computing, on the other hand, demands robust structures and ever-increasing supply chains, which start from the extraction of minerals in different parts of the world, and include processing and transformation into technological structures that store, process, and distribute a large part of the intellectual, cultural and economic production of humanity.

The emergence of the enunciative act “save in the cloud” and its variations says a lot about how the informational technological revolution has occurred quickly and intensely. The expression that was characteristic of the technical-scientific discourse, of a small community, used in an iconographic way, was appropriated by the marketing discourse to, finally, raise several discursive dimensions and become a daily and routine expression for almost everyone who shares some kind of file on the world wide web.

We believe the metaphor of “cloud computing” is a smokescreen for important geopolitical issues that come to the fore as we become increasingly dependent on the virtualization of digital files. The territory where the servers are allocated and how the information of billions of individuals is processed and distributed has become a political issue in several countries. Unlike the clouds of water particles that roam the sky, cloud computing has flags, economic interests, boundaries, and physical limits, and each nation-state begins to develop its legislation to account for how data and information, often precious, of citizens, institutions, and companies will be treated in such structures.

The myth of the cave, described by Plato over 23 centuries ago, is an allegory that permeates several instances of Western narratives. We can have contact with his powerful metaphors in educational books, even in the early school years, in films, poems, in short, works of the most varied kind. José Saramago, a great writer of the Portuguese language, refers to the myth in his most famous work: *Blindness* [*Ensaio sobre a cegueira* – 1995]. The myth of the cave can illustrate the relationship of human consciousness in search of reason, but it allows for many other readings. It is a Western myth that permeates our lives, which we resort to at different times to explain and/or understand the world. In the story narrated in the book *Republic*, the character breaks the shackles that bind him to the world of shadows and manages to climb out of the cave. As he moves outside, his vision is blurred by the daylight, the blue sky, and the beauty of the world. Cloud computing seems to be a new contemporary myth based on other myths, an abstract place that transcends existence, where human consciousness looks in the mirror. Given all the geopolitical implications that the digital virtualization of files brings, relegating an ethereal epithet to this process can harm, delay, or even hide the repercussions on the lives of the citizens of each country.

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