

Circulation of Meanings in News about Pandemic Deaths in Brazil¹

Circulação de Sentidos em Textos Noticiosos sobre Mortes pela Pandemia no Brasil

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ABSTRACT

We analyze the circulation of meanings in the communication circuit formed around news about landmarks in the number of deaths due to COVID-19 in Brazil. We use the concepts by José Luiz Braga about interactional devices and circulation as flows forward and by Eliseo Verón about the complexity of meaning production processes in societies in mediatization. Overall two methodological and analytical moves were carried out: one aimed at understanding the meanings produced in the news – by the use of the Iramuteq lexicometric analysis software – and the other at describing the processuality of communication flows. We defend that the metrics related to research data must be tensioned with broader contexts.

Keywords: Circulation of meanings, interactional device, deaths due to COVID-19.

RESUMO

Analisa-se a circulação de sentidos no circuito comunicacional formado em torno de textos noticiosos sobre marcos no número de mortes por covid-19 no Brasil. Inspirou-se nos conceitos de José Luiz Braga sobre dispositivos interacionais e da circulação como fluxos adiante e de Eliseo Verón sobre a complexidade dos processos de produção de sentidos nas sociedades em midiatisação. Foram realizados dois movimentos metodológicos e analíticos: um para compreender os sentidos produzidos nos textos, com utilização do software de análise lexicométrica Iramuteq, e outro para descrever as processualidades dos fluxos comunicacionais. Defendemos que as

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métricas relacionadas aos dados de pesquisa devem ser tensionadas com contextos mais amplos.

Palavras-Chave: Circulação de sentidos, dispositivo interacional, mortes por COVID-19.

INTRODUCTION

Up to February 4th, 2024, the COVID-19 pandemic fatally victimized 7,028,881 people worldwide, according to data from the World Health Organization (WHO)². Up to February 19, Brazil totalized 709,765 deaths, according to the official website of the Ministry of Health³. According to information from Google Trends, since the confirmation of the first case on Brazilian soil on February 26th, 2020, the term “COVID” had search peaks in March 2021, the moment when there was the escalation of the wave with the highest number of deaths in the country.

From this concept, this paper aims to analyze the circulation of meanings in the communication circuit constituted through the publication in the media of news about the number of deaths due to COVID-19 in Brazil. The central question is: what meanings have circulated about COVID-19 deaths in Brazil in these texts? For such, we conducted two analytical moves, one aimed at understanding the meanings produced in both the titles and texts and the other at describing the processuality of the communication flows. The articulation proposed between these two procedures aims to provide a basis for a broader understanding of the circulation of meanings.

We considered the temporal landmarks of 50 (June 20, 2020), 100 (August 8, 2020), 200 (January 7, 2021), 300 (March 24, 2021), 400 (April 29, 2021), 500 (June 19, 2021), and 600 (October 6, 2021) thousand deaths. These dates were selected because they were widely recognized milestones with increased circulation, referred to as nodal points by Braga (2017a; 2017b). On these dates, more detailed texts were produced covering the history of contamination, neglect by some authorities, denialism, and the development of vaccines. We observed a significant decrease in the number of published articles when Brazil reached 250,000, 350,000, and 450,000 deaths over a three-month period. Therefore, we selected these dates due to the widespread circulation of these discourses. The following timeline illustrates the rapid increase in Covid death statistics in Brazil, starting from the dates when 50, 100, 200, 300, 400, 500, and 600 thousand deaths were reached.

² Available at <https://data.who.int/dashboards/covid19/deaths?n=c> <https://covid19.who.int/> Accessed on Feb. 21, 2024

³ Available at <https://covid.saude.gov.br/>. Accessed on Feb. 21, 2024

Figure 1
Timeline



The decision about the need to study this specific period more deeply was made from observation in the media regarding what was being said about the pandemic and how such discourses were constructed. In the last two years, attention has been given to different communication themes related to the pandemic. Borelli, Dalmolin, and Kroth (2022) analyzed the circulation of contents about COVID-19 in groups formed by family ties on the WhatsApp platform. The same authors had previously observed content circulated in WhatsApp groups aiming to raise indications about what was thematized in this specific platform (Kroth, Borelli, & Dalmolin, 2021). All studies are conducted from the specifically communicational view, and some were carried out from reflections interfacing with humor, politics, and religion. For example, Regiani, Feliciani, Borelli and Dalmolin (2021) analyzed pictorial memes criticizing president Bolsonaro during the COVID-19 pandemic. In



⁴The acronym stands for
'Interface de R pour les
Analyses Multidimensionnelles
de Textes et de Questionnaires'.

turn, Borelli and Regiani (2021) investigated, in WhatsApp groups, discursive materiality constructed with humor that evoked religious elements. Lastly, Medeiros, Romero, and Borelli (2021) conducted a survey of presidential speeches delivered from March 2020 to May 2021 and published on the webpage “*Acompanhe o Planalto*” on the website of the Brazilian Federal Government. Such data were processed using lexical analysis software Iramuteq⁴, and word clouds and maximum similarity trees were generated.

Far from understanding the totality of the communication phenomenon analyzed or even what we could call the understanding of the essence from conceptual explanations, our research attempts encompass specific aspects, i.e., specific occurrences that contribute to the observation, analysis, and relevant interpretations of the studied phenomenon. As denominated by Braga (2017a, p. 18), tentative research is interested in “a small set of aspects, with an intermediary focus of comprehensiveness, but that allows observing a good diversity of objects, cases, and situations in which the communicational action is viewed as the main issue and priority angle for discoveries”.

Hence, considering the richness, diversity, and complexity of the phenomena, a fruitful path is precisely the centrality in specific angles that are imperatively focused on communication issues. Braga (2017) exposed that articulating the detected characteristics allows comparison angles in the empirical situations so that we may, thus, obtain references in our analyses. The author also proposed that communication phenomena are formed by interaction episodes; therefore, it is as such that we understand the landmarks of deaths due to COVID-19 in Brazil.

Besides dialoguing with the perspective of Braga (2017) about the processuality of the circulation as a flow forward, we were also inspired by the studies on mediatization developed by Verón (1997, 2014) from a semi-anthropological approach focused on the construction of meanings and distinct semiosis through sociosemiotics (Verón, 1996, 2004, 2013).

It is also necessary to stress that we dialogue with the propositions by Fausto Neto (2010, 2018), who, inspired by the social discursive perspective developed by Eliseo Verón, has problematized the emergency of circulation and, consequently, the need to deepen our analyses about the complexity of communication phenomena, since circulation represents bifurcations, interpenetrations, in which discourses follow unforeseen paths. Therefore, this phenomenon is far removed from linearity.

Starting from the challenges of studying the perspective of circulation, this reflection integrates a broader research effort addressing discursive circulation within the context of societies in mediatization. Within the scope

of the studies carried out in recent years by members of the research group Media Circulation and Communication Strategies (Cimid), this proposition is connected to other investigations conducted by us when we dwell on methodological experimentations. In the past decade, researchers have studied various cases regarding the circulation of meanings. More recently, there has been a focus on critical theoretical and methodological problematization, as well as experimentation with cross-referencing qualitative and quantitative data (Borelli, no prelo).

Frigo, Romero, and Borelli (2022) analyzed the circulation of meanings in the Facebook group entitled “*Mulheres Unidas pela Democracia Santa Maria-RS*” (Women Gathered for Democracy Santa Maria-RS) from the use of the *Iramuteq* software with the purpose of gathering indications to later perform interpretations through the semiological analysis of the discourses. Previously, the same authors mapped the digital platforms (Van Dijck, Poell, & De Waal, 2018) on which The Intercept Brasil published the first three reports of the “*Vaza Jato*” journalistic series. The focus was on identifying in which ones it was possible to characterize the construction of interactional devices that circulated the meanings that composed the communicational circuit (Frigo, Romero, & Borelli, 2020).

This discussion is important to intertwine the perspectives surveyed by the studies on circulation, such as the one worked by Braga (2017a; 2017b) in its conceptual proposition about the interaction device, with the perspectives of the studies about platforms, viewing such constructs in their multifaceted and complex aspects (Van Dijck et al., 2018). In conceiving that there are platforms that may be characterized and studied as interaction devices (Braga, 2017a), we assess that one of the contributions of this research is the attempt to make these approaches dialogue.

In dialogue with such previously conducted research efforts, from the methodological viewpoint, we considered the Google search engine to collect the news items because we started from the assumption that although there are aspects we cannot apprehend, such as the transparency in the articulation of the algorithms involved in the presentation of results⁵, it is a form of search that may be used in scientific research. Moreover, we elaborated our analyses from inferences about the integration of the similitude analyses (Degenne & Vergès, 1973) with the descending hierarchical classification (DHC) (Reinert, 1993) about the titles and texts carried out with the aid of lexicometric analysis we used the free French lexicometric analysis software *Iramuteq*. To use the software, we relied on literature in both French (Ratinaud, 2009) and Portuguese (Camargo & Justo, 2013).

⁵ As Van Dijck, Poell, and De Wall (2018) mentioned, Alphabet-Google and Facebook control 80% of the data traffic on the Internet, and their policies influence the news production market. For a more in-depth discussion about the functioning logic of the algorithms, one may consult Striphos (2015) and Rieder (2018).



With these methodological moves carried out, we proceeded to describe the processuality of the communication flows found, seeking to identify crossings of meanings between what is said in the texts and a broader context – that of the pandemic and some singular characteristics of the media. Our methodological approaches dialogue both with the perspective of Verón (2004, 2013) regarding social semiosis and the need for the analyst to work on discursive materiality, removing fragments of the flow of the semiotic fabric, and that of Braga (2017b) regarding the inferential articulation about the observed indices.

Our research is focused on one of the areas of investigation in the field of Communication, which addresses the processes of meaning production and discourse circulation through complex interactional activities between producers and receivers. We also conceive that the methodological experimentation proposed herein aims to provoke the reflection on the non-neutrality of the data and the inevitable debate, within the scope of Communication, to attempt to tension methodologies with tradition and qualitative or quantitative emphases. We acknowledge that it is possible to perform research seeking to relate more micro views with situations deemed broader.

That said, we initially discuss the concepts of interactional episodes and devices, besides communication circuits, from the propositions of Braga (2017b). Then, understanding that the temporal landmarks of deaths due to COVID-19 are the interactional episodes, the texts published in the media are characterized as interactional devices, and the articulation of such different devices constitutes the communication circuit, we analyze the circulation of meanings and make inferences about observed processuality.

THE COMPLEXITY OF THE CIRCULATION AND THE CONSTITUTION OF THE COMMUNICATION CIRCUIT

We started from the assumption of the non-linearity of communication and that, as researchers, we observe discourses inscribed in different materiality and identify marks produced by the enunciators (whether media, institutions, or social actors) that point to the complexity of the production of meanings. Therefore, upon analyzing the selected news that contemplate what we consider as landmarks of deaths in Brazil due to the pandemic, we may deepen significant points in the context of discursive circulation.

As Verón (2004) conceived, every discourse draws “a field of effects of meaning and not a single effect” (p. 216). To him, the finding that we live in a society in mediatization challenges researchers to view communication processuality that complexifies with the intensification of the circulatory

activity. The author defended that communication is not linear since there are discursive imbalances and lags due to the enunciation work performed by the social actors⁶ in the most diverse discursive contexts. In his last productions, he emphasized that the occurrence of a more significant diffusion of discourses in contemporary society represents more complexity.

With inspiration from some propositions of German theorist Niklas Luhmann about social systems, Verón (2013) problematized what he named epistemology of observation, highlighting that what may be observed are the signs in their distinct materiality. To him, “the observation, at any of its levels, is the observation of material configurations of signs, which are fragments of the semiosis, mediatized [...] or not mediatized” (Verón, 2013, p. 404, our translation⁷). The semiologist also stressed that such sign configurations are hybrid and non homogeneous.

Sharing ideas similar to those of the Argentine semiologist, Fausto Neto (2018) highlighted that we need to move away from the epistemological traditions of “binary” order, seeking clues of how this processuality is engendered, what articulations, bifurcations, or divergences may be observed through a relational perspective. To the author, it is necessary to observe the communication phenomenon more broadly because the grammars produced within the scope of the media cause to “emerge not only an ambiance but other forms of circuits in which new conditions of meaning production are structured” (Fausto Neto, 2018, p. 27).

In addressing the circulation problem, Fausto Neto (2010) drew attention to the possibility of viewing reception through the edges of circulation. More recently, the author preconized the concept of “contact zone”, in which complex feedback and multiple relations of social, technical, and discursive order relations occur. In this complex processuality, historically viewed separately, the poles of production and reception must be removed from

their stagnant places since their activities are modified, “transforming the conditions of their meaning production work” (Fausto Neto, 2018, p. 30).

The complexities that mark the meaning construction processes and the semiosis produced by the social actors within the context of societies in mediatization challenge us to seek to understand the communication phenomena more broadly, far from the former communication model that placed production and recognition in isolated meaningful chains. Hence, we understand that each interactional episode has distinct singularities because the interactions between producers and receivers of meanings, for example, may conglomerate disputes, divergences, convergences, tensioning, and singular approaches. To reflect on such processuality, we resort to Braga (2017a, p. 20),

⁶We name as social actors those who produce semiosis (enunciators, social subjects, participants, interactants, among other denominations) from inspiration from the writings of Eliseo Verón. The author used different ways to name the activity of those who produce discourses: individual actors (Verón, 1997), socio-individual systems (Verón, 2013), receivers, and discursive position in recognition (Verón, 2004, 2013).

⁷From the original: “la observación, en cualquiera de sus niveles, es observación de configuraciones materiales de signos, que son fragmentos de la semiosis, mediatizada [...] o no mediatizada”.



to whom “social interactions correspond to the place in which we may attempt to approximate the communication phenomenon in its occurrence”. In our study, upon observing the interactions in the episodes, we seek to identify clues about the circulation of meanings relative to the publication of news about deaths due to contracting the Coronavirus.

In agreeing with Braga (2017a; 2017b) that communication is a tentative process and that episodes are made concrete through the interaction of the participants, we also stress that there is no communication without interaction and that, for such communication to exist, both the codes and the inferences are necessary. Hence, we highlight that the code is related to the language, rules, and patterns that the participants in a given interaction share, as well as the social, cultural, and technological environment in which such participants are inserted. However, the codes alone are not enough for an interaction, which also depends on the inferences that, in turn, are associated with the interpretations, the deduction and abduction, the experience lived, and the construction of meanings. With this in mind, it is interesting to point out that the codes are tentative and require inferences at each interaction process, which refers to the fact that communication is a tentative process.

However, it is worth stressing that the participants are not necessarily creating new processes at every moment to fulfill their goals in the interaction, given that there already exist recognizable models activated by them for communication to occur. Braga (2017a, p. 33- 34) called such a model an interactional device: “... it is a model developed by experimental practice (attempts) that has a more or less defined articulation of ‘code’ processes and non coded spaces that request the inference of the participants”. We propose that the temporal landmarks are the interactional episodes, whereas the news published in different media that announced the landmarks of the number of deaths may be characterized as interactional devices since they have specific codes and inferential processes that may be carried out and analyzed.

We agree with Braga (2017a) that “[...] such devices are communicationally developed and culturally added for the exercise of interactional episodes” (p. 38). Hence, it becomes evident that the notion of the device has to do not only with the technology or institutional rules of the means of communication, which in themselves are not interactional devices, but rather the set that encompasses the appropriations of these technologies and the processes that provide meanings to their uses, for example, may be taken as devices in our conception.

To Braga (2017a), the results of an interaction generate meanings for other interactions, given that the elements of an episode are in circulation and, thus, remain in a flow forward, successively constructing other interactional

episodes. Also, according to the author, the materiality present in the episodes is in product form, such as the text itself, for example, or the memory accumulated among the interaction participants.

Hence, at the same time society elaborates communication attempts, it also constructs connections or tensioning among different episodes, with such moves contributing to the development of articulations among the interactional devices. To Braga (2017b, p. 44), the “[...] reiteration of connections among different interactional devices ends up characterizing as a circuit, which starts to explicitly direct the communication flow forward in specific contextual conditions”.

As Braga (2017b, p. 53) explained, this product that circulates “... is rather a characterizer of the output and input elements that relate interactional devices in the circuit”. Hence, to the author, it is merely a moment of the circuit, with the materiality allowing the capture more easily for one to make observations and inferences about the processes in which such a product is inscribed, considering even that, with the processuality of the ongoing mediatization and the conditions of circulation in a flow forward, the logics between the media that produce content and the discourse receivers (social actors, from the Veronian perspective) are affected.

Moreover, to continue circulating and repercussing, the product placed in circulation (in our study, the news) is moldable and seeks to mold the environments in which it is circulating. Hence, from what is put into circulation in devices through the most successful interaction attempts in the episodes, it is possible to make inferences about the more general processes of the circuit, also observing the specificities of the nodal points. With this in mind, we may analyze the circulation of meanings about the landmarks of deaths due to COVID-19 in Brazil from news published in different media articulated in the constitution of other communication circuits.

THE MEANINGS PRODUCED: METRICS AND INITIAL INFERENCES

After discussing the concepts central to the research, we initially present the procedures for collecting and cleaning the collected textual data. We consider that detailing such processes is important not only to specify the processuality of the research but also to inspire and be able to be a reference for other studies that, by any chance, come to be developed in convergence with ours. After, we proceed to the presentation of the analyses about the meanings circulating in the news and, lastly, discuss the processuality of the communication flows. As said in the Introduction, the investigation is related



to other theoretical and methodological moves that have been carried out in the last two years within the scope of the Research Group, which has the participation of scientific initiation, master's, and doctoral students.

The collection⁸ was carried out based on a protocol devised by the authors that asked to search for the landmarks of 50, 100, 200, 300, 400, 500, and 600 thousand deaths in the Google search engine and collect the first twenty texts that appeared. To ensure the feasibility of the investigation, a specific number was established for manual data collection due to the large amount of data to be gathered. This procedure was carried out from October 3 to December 6, 2021⁹, using the browsers Opera and Google Chrome, and the texts were stored through a form on Google Forms. Besides notifying to which landmark the links to the texts belonged, it was also asked for one to observe if there was space for comments on the websites, which other digital platforms they had, and if the news had been published on any of them. Lastly, the full text of the news should be copied to a Word document, which should be attached.

In this first step, 135 stories¹⁰ were collected that had been published by 54 media outlets, namely *Abrasco*, *Band*, *BBC Brasil*, *Brasil de Fato*, *Campo Grande News*, *Carta Capital*, *CNN Brasil*, *Correio 24 horas*, *Correio Braziliense*, *CUT*, *Diário do Grande ABC*, *DW Brasil*, *Estado de Minas*, *Estadão*, *Folha de Pernambuco*, *Gazeta do Povo*, *Hypeness*, *Istoé Dinheiro*, *Jornal do Comércio*, *Metrópoles*, *Nexo Jornal*, *NSC Total*, *Oxfam*, *Poder 360*, *Rede Brasil Atual*, *Reuters*, *Sinposba*, *Unicamp*, *Uol*, *Folha de S. Paulo*, *Agência Senado*, *Agência Brasil*, *Análise Política em Saúde*, *Yahoo Notícias*, *El País Brasil*, *Canal Tech*, *Congresso em Foco*, *G1*, *Exame*, *GaúchaZH*, *Jovem Pan*, *Jornal da USP*, *Marco Zero*, *R7*, *Olhar Digital*, *Outras Palavras*, *Portal Eu Saúde*, *Projeto Colabora*, *Euronews*, *Revista Oeste*, *IG*, *Telepadi*, *Veja*. These 54 media outlets represent some diversity, given they produced 135 texts¹¹. The Google search engine algorithm apparently directed to various sources, considering that we searched for the 20 first results.

After the collection, we conducted procedures to clean the information, removing the links for which there were impediments by the paywall to collect the news text, such as the newspapers *Estadão* and *Folha de S. Paulo*. Hence, 109 texts remained to continue with the analysis. Moreover, for the documents to be able to be entered into the research software *Iramuteq*, the conjunction “and” was replaced with “&”, and we chose to work only with the meaningful words (nouns, verbs, adjectives, and unrecognized forms), opting to lemmatize the vocables. The data mining and processing required for the corpus to be run on *Iramuteq* has been discussed in another publication (Romero & Borelli, 2021).

⁸Scientific initiation students Maria Eduarda Baldin (Fipe Senior/CCSH UFSM), Flavia Morishita (Pibic/CNPq), José Vitor Zuccolo (Probic/Fapergs), and Milene Eichelberger (research collaborator, PET scholarship holder/Capes) participated in the initial data collection

⁹As of March 28, 2023, the number of deaths had not yet surpassed 700,000. It is worth noting that it took just over a year for the death toll to reach 600,000.

¹⁰Of the 140 links, 135 were deemed news; the others were discarded for being connected with misinformation propagation websites. The criterion for exclusion was based on the research protocol, in which the students had to check the reliability of the website and read the news story in full before starting to collect it.

¹¹Our intention is not to engage in a debate about the nature of news text production. We recognize that traditional media organizations have established traditions, routines, and specific production logics, but there are also independent news sources, as well as productions by small groups, independent journalists, civil organizations, and institutions.

Therefore, our focus is to identify whether the texts have sources and data, and whether the information conveyed can be verified. The corpus includes information from traditional media, civil society, and institutional organizations, such as the *Jornal da USP*, *Portal Eu Saúde*, and *Agência Senado*, among others. This decision was made based on the reliability of the data produced and the wide

The concept of a *corpus* was considered by Verón (2004) as a group of texts from the empirical viewpoint. To him, the principle of the internal structure of a *corpus* starts from the choice in favor of some homogeneity; however, every text “is a heterogeneous object, lending itself to multiple readings, placed at the crossroads of a plurality of different ‘causalities’” (Verón, 2004, p. 71). Hence, we agree with the author when he said that the analysis implies pulling from the meaning production flow specific fragments of the semiotic fabric.

Relative to the first analytical move, observing the meanings circulating in the stories, we based ourselves on the similitude analysis and the descending hierarchical classification (DHC) method, in addition to later returning to the texts for contextualization. Such a methodological articulation follows the proposal initiated by Romero and Borelli (2021) when observing the chart of the maximum tree (Degenne & Vergès, 1973) from the intermediation centrality of the vocables (Newman & Girvan, 2004; Brandes, 2001). We added the DHC because, besides the panoramic view of the addressed themes, we are also interested in making comparisons among the texts, as done by Frigo et al. (2021).

Specifically, we chose to separate the textual data into title and text, besides classifying it according to the temporal landmark to which it is related and which media outlet published it. After this separation, we first analyzed the metrics related to the maximum tree of the titles and later that of the texts, in addition to applying the descending hierarchical classification to the texts only. Next, we present the collected data and the research findings.

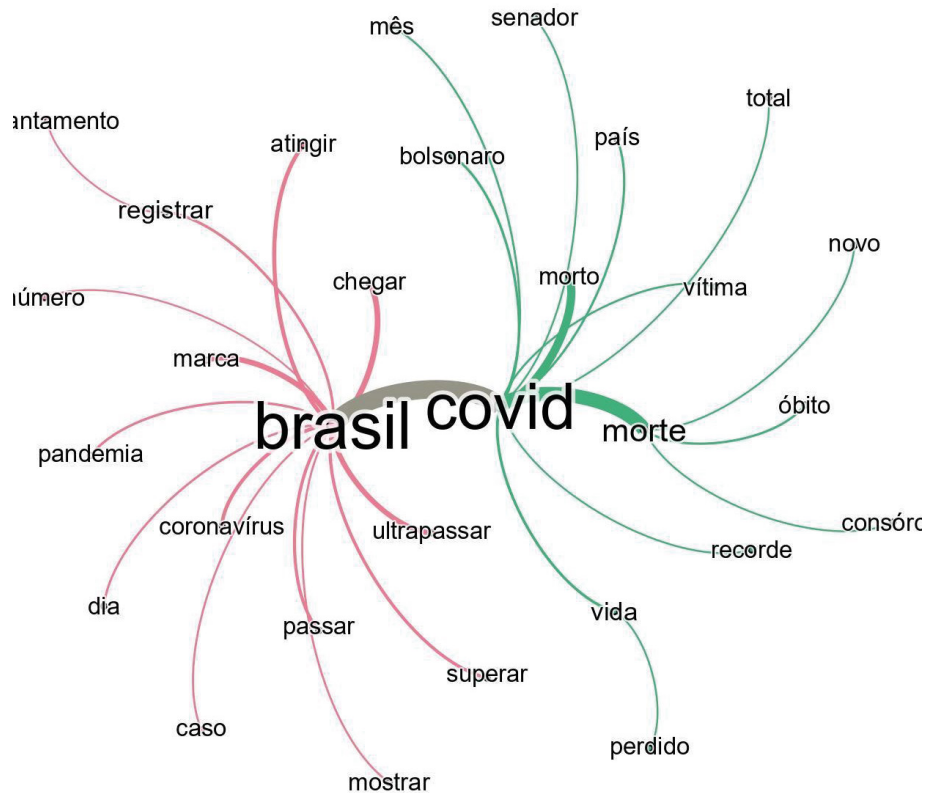
The 109 news were analyzed, and the first observation move involved the titles. Relative to this, we had 1,358 occurrences (words, agglutinated forms, or vocables¹²), with 250 different words and 161 appearing only once. The average occurrence of words in the titles was 12.46. With our methodological choice to exclude certain grammatical classes (such as adverbs, conjunctions, and prepositions), 653 occurrences remained, representing 48.08% of the total. Among these, 620 (94.94%) were active, and 33 (5.05%) were supplementary. The maximum tree chart was generated with all the words that appear more than ten times in the corpus, and it had a modularity of 0.336 and presented two classes.

Relative to the maximum tree chart generated, two classes or communities of words emerged that have proximity to one another. The classes were as follows (Figure 1): class 0 (“brasil” – 300; “registrar” – 28); class 1 (“covid” – 294; “morte” – 81; “vida” – 28).

circulation of these sites and texts. Restricting the corpus solely to traditional media would have made it impossible to take a broader view of texts, various sources, and the meanings produced in the circulation process.

¹²Since such vocables had to be processed, we chose to maintain the writing in lowercase letters.

Figure 2
Maximum tree of the titles



From the chart that highlights the intermediation centrality, it is possible to infer that, besides having a high connection to each other given the thick line that connects them, the words “brasil” and “covid” also created two close angles of meaning, connecting the mention of the country to the verbs “registrar”, “chegar”, and “atingir” and, for the disease, places itself together with the vocables that characterize their effects such as the noun “morte”. In general, it is possible to infer there is proximity in the meanings surrounding the analyzed titles, emphasizing the geographic location and the metric used as a mark of ephemeris.

As already mentioned, after observing the titles, the texts were analyzed. Relative to this, we had 90,539 occurrences (words, agglutinated forms, or vocables), with 5,858 different words and 2,364 appearing only once. The average occurrence of words in the texts was 830.63. With our methodological

choice to exclude some grammatical classes, 47,498 occurrences remained, representing 52.46% of the total. Among these, 42,294 (89.04%) are active and 5,204 (10.95%) are supplementary. The maximum tree chart (Figure 2) was generated with all the words that appear more than 50 times in the corpus, and it had a modularity of 0.740 and presented ten classes.

Relative to the maximum tree chart generated, ten classes or communities of words emerged that have proximity to one another. The classes are as follows: class 0 (“covid” – 1598; “brasileiro” – 277; “feira” – 139); class 1 (“população” – 139); class 2 (“sanitário” – 139); class 3 (“presidente” – 276; “bolsonaro” – 139); class 4 (“ano” – 139); class 5 (“novo” – 139); class 6 (“saúde” – 1599; “dado” – 276; “consórcio” – 139); class 7 (“morte” – 8011; “país” – 2101; “número” – 550; “caso” – 414; “médio” – 139; “semana” – 139; “vacinação” – 139); class 8 (“governo” – 277); class 9 (“brasil” – 5775; “pandemia” – 2556; “janeiro” – 411; “vida” – 277; “milhão” – 277; “rio” – 276; “grande” – 139); class 10 (“medida” – 937; “social” – 682; “distanciamento” – 276; “máscara” – 139).

From the chart (Figure 3) that highlights the intermediation centrality, it is possible to infer that the vocables with the most significant metric (“morte” – 8011 and “brasil” – 5775) are in classes 7 and 9, which, despite having a strong connection to each other, form ramifications with no connection upwards or downwards. In the “brasil” axis, there are connections with various vocables; however, there is a concentration on “saúde” and “ministério” (these appear connected to words such as “sistema, público, consórcio, imprensa, nacional, ministério) and “pandemia”, with the latter ramifying and connecting to “governo” and “presidente”. On the “morte” axis, we also have various connections, but a concentration in the connectivity to “país” and “número” as well as to “covid”, which in turn ramifies into “hospital” and “covid”.

In general, it is possible to infer the diversity of the thematic focuses, being concentrated around the changes in the management of the Ministry of Health and in the actions of the federal government in managing the pandemic. We also noticed a mention of the data generated by the press consortium due to the decision to no longer disclose official information through the Ministry of Health. On the other hand, there is an emphasis on the numerical aspects of the pandemic, the discussion about the hospital situation, and the development of vaccines through words that refer to the scientific field, such as “especialista”, “vacinar”, “fiocruz”, “sanitário”, “pesquisador”, and “universidade”.

Figure 4
Chart of the vocables of the DHC classes



In turn, the analyzed classes may be observed next (Figure 5).

centralized public policies by the federal government ... from the decision to toughen or lighten isolation measures to the purchase of vaccines”¹⁵ (Biernath & Alvim).

In turn, when classes 2 (green) and 3 (blue) are observed, it is possible to notice the proximity between them due to the evident intertwining of the vocables. Hence, we may infer that the coverage of *GI*, *Exame*, *IG*, *Rede Brasil Atual*, *Isto é*, *Agência Brasil*, *Metrópolis*, *UOL* and *NSC* are more similar and show proximity to that of *CNN*, *Poder 360*, *R7*, and *Brasil de Fato*. We may also infer that there is an emphasis on bringing information from the press consortium – “survey from the press consortium points that the country has 1,070,139 confirmed cases, with 30,972 having been recorded in the last 24 hours” (“Brasil passa de 50 mil mortes”, 2020)¹⁶ and updates of the metrics in comparison with other countries – “since March 5, when it surpassed the United States among the five nations with the most deaths, Brazil has always had a death average near those of Mexico, India, United Kingdom”¹⁷ (“Brasil atinge 300 mil mortos”, 2021)– and among the Brazilian states (“the ICU bed occupation indices in Brazil show an extremely critical picture; except for Amazonas and Roraima, all other states are in the critical capacity alert classification”)¹⁸ (“Brasil atinge 300 mil mortos”, 2021).

Lastly, class 4 (purple) has relative thematic independence when we analyze the configuration and arrangement of the vocables. Hence, the coverage of *Projeto Colabora* and *CUT* are the closest in terms of the production of meanings and tend to focus on the discussions about how much the pandemic affected marginalized populations. One example is the following discursive fragment:

the neglect in tackling COVID-19, absence of support to entrepreneur workers most vulnerable to the pandemic situation, deliberate policy of stimulating the propagation of the virus instead of prioritizing vaccination are among the main motives for the demonstrations scheduled for this Saturday¹⁹ (“Brasil ultrapassa a trágica”, 2021).

After detailing the methodological procedures, when we showed some metrics related to the research data to be able to analyze the circulation of meanings, we had to make a move to return to the texts for it to be possible to make inferences. Another activity performed in this investigation was to consult facts that marked the pandemic context in Brazil during the period comprised of the communication episodes of the temporal landmarks of the deaths due to the pandemic: from 50 to 600 thousand deaths. In sequence,

¹⁵From the original: “a troca de ministros é apenas a ponta do iceberg [...] mudanças administrativas tiveram influência na criação de políticas públicas centralizadas pelo governo federal [...] desde a decisão por endurecer ou flexibilizar medidas de isolamento à compra de vacinas”.

¹⁶From the original: “levantamento de consórcio de veículos de imprensa aponta que país tem 1 070 139 casos confirmados sendo que 30 972 foram registrados nas últimas 24 horas”.

¹⁷From the original: “desde 5 de março quando ultrapassou os estados unidos entre as cinco nações com mais óbitos o brasil sempre teve uma média de mortes próxima à de méxico índia reino unido”.

¹⁸From the original: “os índices de ocupação de leitos de uti no brasil têm quadro extremamente crítico com exceção do amazonas de roraima todos os demais estados estão na classificação de alerta crítico de lotação”.

¹⁹From the original: “o descaso no combate à covid 19 ausência apoio aos trabalhadores empreendedores mais vulneráveis à situação de pandemia política deliberada de estimular a propagação do vírus em vez de priorizar a vacinação estão entre os principais motivos dos protestos marcados para este sábado. Available at: <https://www.cut.org.br/noticias/brasil-ultrapassa-a-tragica-marca-das-500-mil-vidas-perdidas-para-a-covid-19-951e>



we prepared some clues of processuality and transversalities that we managed to observe when analyzing broader communication flows, in dialog with the proposition of Braga (2017a; 2017b) regarding the circuits that are constituted from the publication of the news in the media outlets.

PROCESSUALITY OF COMMUNICATION FLOWS

Upon observing the constitution of the interactional device, we noticed a trend of exclusion of the space open for comments on the websites of the consulted media outlets. The ones that still maintain the space for comments open end up providing some exclusivity to subscribers or integrating with other digital platforms such as Facebook²⁰ or Disqus²¹. It is important to stress that commenting on the website and commenting on the fan pages are not the same operation since they are interactional devices with different codes, languages, and operation modes. Considering the presence of these media outlets on other digital platforms, we noticed that most have profiles on Facebook, Instagram, and Twitter. Among the newspapers that still have space for comments, we highlight *Gazeta do Povo*, which has interactions between readers among the texts collected.

Upon observing the interactional elements and highlighting those more pertinent to our study, we may investigate the system of relationships present. Considering that, according to Braga (2017a; 2017b), the organization of a device is not independent of the processes that exist there, we may say that, since the news are organized relative to whether or not the space for comments is open, this has to do with the interaction of social actors. “Reiterated processes tend to be configured as tendential ways for their continued exercise, hence as ‘structural’ for what is done in their sphere” (Braga, 2017a, p. 36). Also, we understand that if the articulating element of the device is historically defined by the processes, then the organization does not depend only on the interactions of the participants but also on institutional, financial, cultural, and political matters – which traverse the Brazilian context, for example, especially relative to the phenomena of political polarization and misinformation, fed by the dissemination of fake news and discourses of intolerance (Braga, 2020).

Since these historically constructed processes are affected by the interactions, the devices are “... ways of doing that are socially produced and made available” (Braga, 2017a, p. 36). For this reason, that which is tested and selected (or not) in the successive interactions that occur in a device is what will modify this device – such as the decision of many information outlets to no longer open space for

²⁰Facebook, which was pointed out by Van Dijck, Poell, and De Waal (2018) as one of the Big Five (Alphabet Google, Facebook, Amazon, Apple, and Microsoft) in the context of the platformization of society, has been undergoing a brand reformulation process since October 28, 2021. Since then, Facebook, Instagram, and WhatsApp all appear with the designation “from Meta”.

²¹Disqus is a specific platform for comments that may be used for comments and interactions between participants of different digital platforms.

their readers to interact and express their opinions and perceptions from what is said in the texts and produced to circulate in a flow forward.

Moreover, the passages between episodes that reinforce successful attempts “... end up stabilizing and giving shape to the circuit and passing on indications to the interactional devices themselves” (Braga, 2017b, p. 44). In our research, the texts published in the media are the devices; therefore, it is worth mentioning that as the accumulation of episodes occurs through the interactions, the devices may change their technical or social strategies (again, the decision of whether or not to open spaces for comments, manage their functioning, moderate such discourses, among other actions).

Among the media outlets that still have space for comments, we highlight *Gazeta do Povo*, which through the publication of the texts, allowed flows forward since interactions occurred among the readers in such spaces. In our perspective, the codes and inferences are related to how the participants (producers-receivers and receivers-receivers) manage to maintain the dialog about the deaths due to COVID-19. Hence, the pertinence of the codes depends on the technological environment in which they are inserted, the appropriations made of these technologies, and, especially, the goals of the participants who activate specific inferential competencies to adjust such does in interactional terms. Therefore, we agree with Braga (2017a; 2017b) when he said that the acquis of each participant and the contextual conditions are also important elements in the episodes, which, besides interactional, are inferential.

Another processuality found is replication, with credits, for the content of agencies. In other words, there is a crossover among the meanings produced by the news through these actions, besides the evidence of continuous flows in the communication and the constitution of other circuits (Braga, 2017a; 2017b). The texts, which from our theoretical perspective are fragments removed from the semiotic fabric (Verón, 2004), are replicated by the social actors that construct inputs and outputs in the circuit connecting different interactional devices.

FINAL CONSIDERATIONS

There are countless ways to observe the theme that has been present in our everyday life in the past two years: the pandemic due to the SARS-CoV-2 virus. We unfailingly started from a communicational view around the specific axis addressed in our investigation. We searched in the media for what was being said about the pandemic and how the discourses were



being constructed to then analyze the circulation of meanings in the communication circuit formed around the news about landmarks of the number of deaths due to COVID-19 in Brazil.

For such, it was necessary to carry out a work that involved specific methodological experimentations. This does not imply the use of any research technique, method, or methodology; on the contrary, it requires an accurate view of what the object requires for the ongoing studies to flow and not become stagnant or mechanical. It is also important to highlight that this view does not exclude already consecrated methodologies, nor does it intend to use new methodologies with no justifications.

With this in mind, we used the *Iramuteq* software to elaborate our inferences based on the similitude analysis and the descending hierarchical classification (DHC) of the titles and texts. It is worth stressing the importance of presenting these methodological procedures as detailed throughout the paper. After, our methodological approaches dialogued with the perspective of Verón (2004, 2013) regarding social semiosis and that of Braga (2017) relative to the inferential articulation of the observed indices.

Regarding the analyses conducted, it is important to note that our investigation focused on the first 20 results of the Google search engine. Based on this limited sample, we can conclude that the Brazilian media covered COVID-19 related deaths in various ways. The increase in circulation during these periods led to a reevaluation of the government's attitudes between milestones, as evidenced by the results of the descending hierarchical classification.

The decision to include a variety of sources reporting on COVID-19 deaths was based on the observation that institutional or trade union newspapers (CUT) were highlighting broader issues, such as class and the neglect of marginalized groups. This approach also allowed for a wider range of topics related to pandemic victims to be identified. The graphs indicate that the press consortium was one of the primary sources used to present the data. Additionally, the texts highlight the issue of the federal government's neglect of health agencies and science, with repeated references to terms such as 'especialista', 'pesquisador', and 'universidade'. In this context, we inferred that infinite semiosis is constructed through different discursive processuality. Starting from the idea developed by Verón (2004, 2013) and Fausto Neto (2018) regarding the indetermination of the meanings, we noticed that the circulation of meanings challenges us, as observers, to perceive such discursive heterogeneity. There is no homogeneity, given that the configurations of signs are hybrid. It is also necessary to say that the inferences proposed

herein stem not only from theoretical and methodological choices but also from the interpretative view that we undertook on our data and the research findings. The metrics were generated from specific parameters and criteria we developed so that the significant matter extracted from the semiotic fabric could be interpreted.

Another pertinent issue that regards the constant challenges of conducting research involving data collection is that access to them is limited (Borelli, no prelo). Several obstacles often have no momentary or even concrete solutions, such as the logic of the algorithms on digital platforms (Van Dijck et al., 2018). Moreover, the limitation media outlets impose on their contents is ever more often, whether through the need for registration or even payment to access the productions or visualize broader contents.

It is worth adding the tendency for media outlets to moderate or exclude the space for comments, which hampers the interaction with the readers and among them in such a space, leading them to develop other interactional strategies for the flow to go forward, as Braga (2017) defined. This practice can limit the emergence of contact zones (Fausto Neto, 2018) and prompt social actors to develop alternative strategies to access content of interest. One such strategy is to search on websites that are not strictly journalistic, as they offer a wide range of discourse (Verón, 1996, 2004, 2013) in various formats that contribute to the complexity of the process of circulating news stories.

Relative to the analysis, we carried out two moves, one directed at the meanings that circulate in the texts and the other at the processuality of the communication flows. The proposed articulation between these two procedures allowed a broader view to understand the circulation of meanings in the constituted communication circuit, which does not imply the totality of the phenomenon, but punctual elements of specific occurrences observed in the landmarks of numbers of deaths due to COVID-19 in Brazil.

Moreover, the need to remove fragments from the semiotic fabric to enable an analysis within the broad and complete network of social semiosis imposed the challenge of returning to the texts. We defend that it is necessary to observe the context in which we are inserted to understand what the observables tell us. Hence, the data do not speak for themselves; they are discursive materiality on which the analyst must work to manage to identify marks and indices to be able to make inferences.

The emergence of the problem of circulation and constitution of ever more complex communication phenomena resulting from the societies in mediatization also form complex circuits, with countless inputs and outputs that generate new circuits in uninterrupted flows. To account for some of



these aspects, it is worth investigating the formation of a given circuit or even selecting discursive fragments of circuits inscribed in one another – such is the complexity of communication phenomena.

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