DISCURSIVE AUTHORITY IN COVID-19 VACCINATION FACT-CHECKING: THE CASE OF @BUTANTANOFICIAL ON INSTAGRAM

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Abstract: From the theoretical-methodological perspective of New Literacy Studies and French Discourse Analysis, this paper aims to investigate discursive strategies employed by Butantan Institute in publications aimed at debunking dis- or misinformation about COVID-19 vaccination in Brazil. The corpus consists of 32 visual-verbal textual productions (posts) published by the @butantanoficial profile on the digital social network Instagram in the years 2020, 2021, 2022, and 2023. The hypothesis, grounded in the studies of Amossy (2022), is that over these years, the Institute has made various attempts to establish authority in the discourse surrounding COVID-19 vaccination, particularly concerning the possession of what would be perceived as "true statements" about vaccination, in contrast to "false statements", within a context of disinformation and fake news. The results highlight the prioritization of strategies in the discursive construction and re-elaboration of an *ethos* closely tied to different demands from the public as well as to interests of the Institute itself, across various stages of the COVID-19 pandemic.

Keywords: Literacies. Disinformation. Fake News. COVID-19. Butantan Institute. Discursive strategies. Authority.

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AUTORIDADE DISCURSIVA EM CHECAGENS DA VACINAÇÃO DA COVID-19: O CASO DO @BUTANTANOFICIAL NO INSTAGRAM

Resumo: Da perspectiva teórico-metodológica dos Estudos de Letramentos e da Análise do Discurso de linha francesa, este trabalho visa investigar estratégias discursivas mobilizadas pelo Instituto Butantan em publicações cujo objetivo é desmentir informações falsas ou enganosas a respeito da vacinação contra COVID-19 no Brasil. O conjunto do material é formado de 32 produções textuais verbovisuais (*posts*) publicadas pelo perfil @butantanoficial na rede social digital Instagram nos anos de 2020, 2021, 2022 e 2023. A hipótese, fundamentada nos estudos de Amossy (2022), é a de que, ao longo desses anos, houve tentativas diversas do Instituto em construir autoridade no discurso em torno da vacinação contra a COVID-19, especialmente no que diz respeito à detenção daquilo que seria lido como "informação verdadeira" a respeito da vacinação, em oposição a "informação falsa", num contexto de desinformação e *fake news*. Os resultados apontam para priorização de estratégias na construção e reelaboração discursiva de um *ethos* diretamente ligado a diferentes demandas (do público) e interesses (do próprio Instituto), em diferentes momentos da pandemia de COVID-19.

Palavras-chave: Letramentos. Desinformação. *Fake News*. COVID-19. Instituto Butantan. Estratégias discursivas. Autoridade.

Introduction

This study is set within a socio-anthropological, critical and discursive approach of New Literacy Studies (Street, 1984; McLaren, 1988; Janks, 2018; Lankshear; Knobel, 2011; Corrêa, 2011), through which we assume the sociocultural history of the institutions in which academic-scientific discourses emerge within the increasingly frequent use of digital technologies, in the context of formal education and beyond. It seeks to discuss literate social practices in a context marked, on the one hand, by excessive access to information, given the possibilities of producing, editing and sharing multimodal texts (Komesu; Daunay; Fluckiger, 2021); on the other hand, by the widespread dissemination of disinformation and fake news (Komesu; Alexandre; Silva, 2020; Assis; Komesu; Pollet, 2021), with consequences in different fields of knowledge, as was widely discussed during the COVID-19 pandemic and afterwards, in different countries (Naeem; Boulos, 2021; Galhardi *et al.*, 2022; Inoue *et al.*, 2022; Komesu *et al.*, 2022; Oliveira; Komesu, 2022). It also seeks to investigate, in the midst of the phenomenon of disinformation and fake news, attempts to build authority stemming from discursive strategies institutionally assumed in facing this phenomenon and aimed at different literate practices.

In particular, this paper aims to investigate the discursive strategies used by the profile of the Butantan Institute (@butantanoficial) in Brazil, on the digital social network Instagram, in posts that deal with fact-check of dis- and misinformation about the COVID-19 vaccine(s). Based on the discussion raised by Amossy (2022), we propose, as a starting hypothesis, that, from different strategies in different periods of the pandemic, processes of construction and endorsement of the Institute's authority can be observed around true statements (as opposed to false statements) about the vaccine(s) against COVID-19. The corpus consists of 32 visual-verbal texts (posts) published by the @butantanoficial profile on Instagram in 2020, 2021, 2022 and 2023, collected, therefore, in a time series that presents the institution's scientific dissemination activity with a wide audience, on digital social networks, in different periods of the COVID-19 pandemic.

This paper is structured as follows: initially, we make a contextualization of the work of the Butantan Institute in the COVID-19 pandemic and problematize the construction of authority in political discourses in times of crisis as discussed by Amossy (2022). The following section presents the dataset and the research procedures adopted. In the data analysis section, we look at the main discursive strategies identified in the Butantan Institute's actions in the context of fact-checking dis- and misinformation about the vaccine(s). The final considerations seek to systematize the main results, attempting to contribute to a reflection about the dialogues and challenges between the sociocultural dimension of disinformation and fake news, in a context of vaccination against COVID-19 – and the linguistic-discursive dimension in the context of communicating scientific information during and after the pandemic.

The Butantan Institute and the construction of authority in the pro-vaccine discourse: effects of a discursive dispute

The Butantan Institute is a centennial public institution in Brazil, founded on February 21, 1901, and affiliated to the Health Department of São Paulo State (SP). Characterized as one of the main immunobiological research centers in Brazil and around the world, the Institute is known for its partnership with the Federal Government, since it supplies a large supply of vaccine doses used in the Brazilian National Immunization Plan (PNI, in Portuguese). The production of serums for various diseases, as well as research with snakes, reptiles and other animals carried out by the Institute is also publicly recognized. As reported by Veiga (2021), the creation of the Institute, at the state level, and of the Oswaldo Cruz Foundation (Fiocruz), at the federal level, was related to the fight against bubonic plague in Brazil at the end of the 19th century, since importing a foreign vaccine proved to be a costly and expensive task for the Brazilian state.

With a consistent reputation on the research and development of different kinds of serums and vaccines over the last 120 years, the Institute's history – similarly to that of many research institutions around the world – turned a new chapter at the end of 2019, when the first signs of a viral syndrome associated to an acute respiratory infection began to emerge in the city of Wuhan, capital of Hubei province in China. COVID-19,6 a disease caused by the SARS-CoV-2 virus, was declared a pandemic by the World Health Organization (WHO) on 03/11/2020. By 03/10/2023, there were 676,609,955 people infected and around 6,881,955 people dead worldwide, according to data from the Johns Hopkins University, in US.7 More than 13 billion doses of vaccine had been administered in many countries of the world by that date, according to data from the same university. In Brazil, specifically, around 37 million cases and 699,000 deaths had been recorded by March 10, 2023, placing the country, at the time, in the fourth position concerning the number of cases, behind the United States of America (around 103 million confirmed cases), India (44 million), France (39 million) and Germany (38 million), and in the second position concerning the number of deaths from the disease, behind only the United States (close to one million deaths). By the same at date, vaccination rates in the country had reached around 89.1% of the population with at least one dose of the vaccine (around 502,262,440 doses administered), leaving the country behind China (3,491,077,000) and the United States (667,617,372).

In addition to the high number of cases and deaths related to COVID-19 in Brazil, there is a socio-historical context of sharp political dispute and polarization between the Federal Government, represented by the former President of the Republic, Jair Bolsonaro (at the time, not affiliated with any political party; currently, affiliated with the Liberal Party, PL), and the São Paulo State Government, represented by the former Governor João Doria (at the time, with the Social Party of Brazilian Democracy, PSDB; today, without a party and distant from political life). As Costa and Barros (2021) describe, the years 2020 (the beginning of the pandemic and negotiations related to vaccination against COVID-19) and 2021 (the beginning of the vaccination campaign in Brazil) were marked by moments

6 As it is known, COVID-19 is an acronym for "coronavirus disease", with "19" referring to the year in which the first cases of the disease were recorded.

7 Available at: https://coronavirus.jhu.edu/map.html. Accessed on: August 5, 2023. The American university, which kept a "map" of daily updates of COVID-19 cases in various countries around the world, stopped collecting this data on 03/10/2023, as reported on the institution's website. In effect, actions to collect data on the disease have been abandoned, showing that the world is going through another period, characterized by a reduction in the number of cases of COVID-19 due to the concreteness of vaccination. Other challenges, however, are socially imposed, such as the treatment of the so-called Long COVID and dealing with the lasting impacts of the pandemic in areas such as health and education, in the lives of children, young people and adults.

of explicit clash between the pandemic management actions carried out by the Federal Government and those carried out by the São Paulo Government, which intended to respond to the actions of the federal level, with emphasis on the purchase of immunizers.

Among several factors that characterize the broad interdiscursive space of a rhetorical view on COVID-19 (Amossy, 2022), we can highlight, in the Brazilian scenario, the confrontation between (1) the São Paulo Government's move to anticipate the production, purchase and distribution of vaccines (with publicity of the negotiation, as mentioned, in response to the Federal Government's actions)[8] and (2) the Federal Government's move to delay the release of information about an immunization plan against COVID-19 (Costa; Barros, 2021). It is specifically relevant the former President's move to exchange public attacks with the former governor of São Paulo, in an attempt to characterize CoronaVac as "João Doria's Chinese vaccine" (Costa; Barros, 2021, p. 25). This confrontation also takes on greater proportions, as Silva and Baalbaki (2021) describe: at the time, the former governor of São Paulo was in the position of main antagonist of the former President, in a rupture triggered by the COVID-19 crisis, and he took on the role of political bet for the 2022 presidential elections, which would also be disputed by Jair Bolsonaro (PL).

Thus, in a context of a severe health, economic and political crisis (which led to the establishment of a Parliamentary Commission of Inquiry, CPI, in 2021, to investigate negotiations that would have been carried out by the Federal Government in the purchase of vaccines), the beginning of the vaccination campaign against COVID-19 is configured as an object of discourse whose meaning is disputed in an antagonistic way by the Federal Government (in the person of Jair Bolsonaro and, at an institutional level, in control of the Ministry of Health) and by São Paulo Government (in the person of João Doria and, at an institutional level, in control of the Butantan Institute). From our evaluation, this is a discursive dispute around CoronaVac in Brazil, in terms of Recuero and Soares (2021), since a hegemony of meaning is claimed by different discourses. In this polarized dispute, therefore, Butantan Institute (São Paulo State) intends to be the disseminator of qualified scientific information about CoronaVac (product) and vaccination (process), using strategies to build authority in the discourse on vaccine, as we discuss next.

In the context of discursive studies on how legitimacy and authority are constructed at times of crisis – as is the case of the COVID-19 pandemic – Amossy (2022) proposes, in a systematic review of these concepts within studies in the social and the linguistic

8 It is estimated that the investment in the CoronaVac advertising campaign, at the beginning of vaccination in the state of São Paulo on January 17, 2021, was 12 million. Available at: https://www.meioemensagem.com.br/comunicacao/com-inicio-da-vacinacao-governo-de-sp-estreia-campanha. Accessed on: August 5, 2023.

sciences, an examination of the processes of legitimization and construction of authority in political discourse. Our study embodies the ideas outlined by the author as it deals with material produced in the context of the COVID-19 health crisis, addressed to a wide audience (that of digital social networks) and conceived in the context of political discourse, observing the position of the Butantan Institute (and its association with the State of São Paulo) in the discursive dispute surrounding CoronaVac in Brazil. In the field of New Literacy Studies, the interest in the concept of discursive strategies adopted in a type of institutional communication in a period of crisis is justified when it comes to a critical view of literacy, which "[...] involves decoding the ideological dimensions of texts, institutions, social practices, and cultural products, [...] in order to reveal their selective interests" (Mclaren, 1988, p. 214). Therefore, as an incessant result of social practices of critical literacy, the criticality would allow individuals to engage "[...] with the ways in which semiotic resources have been harnessed to serve the interests of the producer" (Janks, 2018, p. 19), as we propose to discuss in this work.

Often confused with a form of expression of authority, legitimacy is not only anchored in the legality of its acquisition and the exercise of power – historically acquired, such as the public recognition historically attributed to the activities of the Butantan Institute, for example, – but also in the justification of power relationships in terms of beliefs and values. Thus, legitimacy "[...] must be explicitly recognized in order to be imposed" (Amossy, 2022, p. 15). According to the author, authority, in turn, is the ability to provoke obedience without coercion; it is based on legitimacy, but demands, in order to be accepted and efficient, "[...] that the speaker constructs an *ethos* endowed with an additional credibility that inspires confidence in the framework of an asymmetrical relationship" (Amossy, 2022, p. 15). In our investigation, we prioritized strategies for the discursive construction of authority, as explained below. Based on Amossy´s proposal (2022), we can say that the discursive construction of the authority of Butantan – socio-historically considered to be an (already) legitimate institution – would depend on its credibility in two forms: (1) one which is linked to its statements (authority, pragmatic and value-based arguments) and (2) one which is linked to its "person" – in this case, the figure of the institution (discursive construction and re-elaboration of the *ethos*).

Regarding the authority of the statements, we highlight the fact that the measures taken against COVID-19 are based on scientific reasoning transmitted to decision-makers (argument from authority); scientific authority is used so that the authority of their discourse is *a priori* irrefutable, even if it is contrasted with controversies that have been covered by the media at a later time. As far as the pragmatic argument is concerned, the decision to take (or not) measures to combat the pandemic and its inherent problems "[...] is based on

the practical consequences of the choices made in relation to the stated goals" (Amossy, 2022, p. 13). Thus, it is not uncommon for both arguments to be related to each other and to reinforce each other. Value arguments would appear, for example, in a kind of obedience to restrictive measures that are in conformity with consolidated social values in these crisis contexts, such as truth (as opposed to false information), responsibility and solidarity.

Regarding the institution's authority, there would be, in the process of the construction of legitimacy and authority (in the political discourse and in the discourse of the Institute in focus), a relational character of a previous *ethos* in relation to its own discursive construction and re-elaboration. According to Amossy (2022, p. 14), in a context of crisis, it would be possible to observe, in the discourse, the (attempted) projection of a reliable and authentic image of the speaker (of the institution) from the recovery of a certain memory surrounding him/her (it) – in the case of the Butantan Institute, for example, the recovery of a previous *ethos* is related to the historicity and traditionality of the institution (122 years of tradition in vaccine production). Hence, the discursive construction and re-elaboration of the *ethos*, that is, the creation of a positive, experienced and effective self-image in the first case, and the detachment from a depreciative image attributed by another actor, in the second case, is achieved through the appropriate use of discursive and argumentative resources, as well as the personal style of the speaker – in this case, of the institution – and its personality to be (read as) "transparent", as we will see below.

Dataset and methodological procedures

The corpus consists of 32 visual-verbal texts (posts) published by the Butantan Institute's profile on the digital social network Instagram, from December 2020 to July 2023 (covering a total of 32 months). These years represent (1) a period of worsening of the COVID-19 pandemic, including the initial moment of vaccination (December 2020 to December 2021), (2) a period of flexibilization of health rules and drop in the number of cases of the disease (January to December 2022) and (3) a later period (January to July 2023), marked by the end of the Public Health Emergency of International Concern related to COVID-19, issued by the World Health Organization (WHO) on 05/03/2023.[9] The aim is to investigate the discursive strategies used in the Butantan Institute's vaccination campaign and in combating disinformation related to vaccination against COVID-19 in different periods of "confrontation" with the disease (and also with disinformation), in

9 Available at: https://www.paho.org/pt/noticias/5-5-2023-oms-declara-fim-da-emergencia-saude-publica-importancia-internacional-referente. Accessed on: August 5, 2023.

order to discuss the process of building authority by means of the Butantan Institute's discourse.

The dataset was selected because Instagram is the second most used digital social network platform in Brazil, after WhatsApp, according to data from a report by the agencies We Are Social and Meltwater.[10] According to the survey, Instagram is used by 89.8% of internet users in Brazil aged between 16 and 64 (out of a total of 181 million surveyed individuals, 84.3% of the country's population). There are 113 million users of this social network in Brazil, compared to the world average of two billion users (only behind Facebook, with 2.9 billion, YouTube, with 2.5 billion, and WhatsApp, with a similar average of 2 billion). Also, according to the report, each Brazilian user spends an average of 15 hours a month using the platform, which represents an increase of around 1.9% over the previous year. For comparison purposes, the world average is 12 hours per user, an increase of 6.9% compared to the previous year of the survey, which shows a trend towards increased participation of Brazilian users in this social network. Instagram was also prioritized because it is the social network on which the Butantan Institute's profile has the largest number of followers: around 975,000 as of 07/22/2023, compared to around 410,000 followers on Facebook, around 201,000 on X (formerly, Twitter) and around 28,000 followers on TikTok.

As mentioned, the visual-verbal texts collected are part of a broad context of the Butantan Institute's activities on social media since the end of 2020, as Martens *et al.* (2021) point out in an editorial for *Núcleo Jornalismo*. According to a survey carried out by this media outlet, there is a relationship connecting the beginning of the Institute's vaccination campaign in favor of the CoronaVac vaccine, the change in the Institute's stance on social media and the increased engagement on the Institute's profiles, especially on Twitter (currently, X platform), in 2021. This survey highlights the fact that a century-old institution such as Butantan has (successfully) experienced the effects of using social networks for communication, in contrast to a more "traditional" idea of communication followed by the Institute until before the beginning of the vaccine campaign. Thus, we assume that the Butantan Institute's work on social networks emerges in a context of scientific discrediting of the effects of the pandemic and vaccination in Brazil, following successive attacks on CoronaVac by internet users, including political actors.

The collected data consists of posts made by the @butantanoficial Instagram profile in the years 2020, 2021, 2022 and 2023 (respectively, periods when the COVID-19

10 Available at: https://datareportal.com/reports/digital-2023-global-overview-report. Accessed on: July 29, 2023.

pandemic was worsening, with the start of vaccination against the disease [2020 and 2021]; a period when health rules were more flexible, with the advance of vaccination and a decrease in the number of cases of the disease [2022]; and a "post-pandemic" period, with the end of the health emergency alert issued by the WHO [2023]). These posts aim to disprove dis- and misinformation about the vaccine (product) or vaccination (process) against COVID-19. The Institute's work emerges in a discursive dispute around CoronaVac (and the "solution" to the pandemic) in Brazil, given the successive attacks on the immunizer, made by user profiles on social networks, such as candidates (at the time of the 2020 municipal elections) and government officials (Rede de pesquisa solidária, 2021a; 2021b).

The data collection was carried out as follows: in the beginning of July 2023, a selection of posts was made from the @butantanoficial profile on Instagram, which aimed to verify dis- or misinformation. At this stage, 41 visual-verbal texts were collected (27 in 2020-2021; 08 in 2022; 06 in 2023). Each post had its visual-verbal configuration captured by screenshots, which were then saved in image format (.png/.jpeg) and pasted into a text editor file. This procedure aimed to preserve the visual-verbal configuration of the publication and the number of likes at the time, as well as ensuring the safe storage of texts from the internet. Next, we excluded those visual-verbal texts that did not have vaccination against COVID-19 as a topic, a procedure that resulted in a reduction to 34 posts (25 in 2020-2021; 06 in 2022; 03 in 2023). Of these 34 publications dealing with vaccination, we excluded those that had no object of verification – that is, publications that, despite having been formulated under the logic of verifying information from the Institute, did not set out to effectively verify any specific data, but rather to share some scientific information or answer a question recovered from some discursive memory of the period in question. Thus, we obtained a total of 32 visual-verbal texts (posts), with the distribution in months/years illustrated in Table 1 below:

Table 1. Number of fact-checking posts about the COVID-19 vaccination.

Period investigated	Month/year	Number of posts
December 2020 to December 2021	December 2020	01
	January 2021	02
	February 2021	06
	March 2021	03
	April 2021	02
	May 2021	01
	June 2021	04
	July 2021	02
	August 2021	02
	September 2021	01
	November 2021	01
January to December 2022	May 2022	03
	June 2022	02
January to July 2023	March 2023	01
	April 2023	01
Total: 32 posts		

Source: Own elaboration

Given this organization of the posts across the investigated periods, we analyzed the material based on the categories proposed by Amossy (2022), regarding the process of discursive construction of authority, since both the context in which the categories were devised and the context in which the material was analyzed concern actions of government institutions in a context of crisis motivated, in this case, by COVID-19.

#ÉdoButantan: main results

Figure 1. Publication of the first period (2020-2021)

Source: Screenshot from @butantanoficial Instagram post[11]

Figure 1 refers to a type of publication which was typical for the first period analyzed, at the end of 2020 and into 2021, when the epidemiological context of COVID-19 in Brazil and around the world recorded a rise in cases and deaths related to the disease and experienced, especially in Brazil, a slow progression of vaccination statistics. In Brazil, the pandemic reached its peak of deaths by actual date (date on which deaths actually occurred, as opposed to their notification date) in March 2021, according to data from the Ministry of Health (MS), with around 80,000 registered cases.[12] The delay in the purchase and distribution of vaccines by the federal government[13] and the direct media confrontation between the President of the Republic and the Governor of the São Paulo State at that time are relevant aspects in the socio-historical context of that period, as discussed.

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11 Available at: https://www.instagram.com/p/CQOpnG0LY9_/. Accessed on: August 5, 2023.

12Available at: https://www.poder360.com.br/coronavirus/pico-da-pandemia-marco-teve-80-mil-mortes-por-data-real-no-brasil/. Accessed on: August 5, 2023.

13 Available at: https://www12.senado.leg.br/radio/1/noticia/2021/10/22/relatorio-acusa-governo-federal-de-atraso-na-compra-de-vacinas-e-de-negociacoes-ilicitas-no-caso-covaxin. Accessed on: August 5, 2023.

In this publication, dated June 17, 2021 (average number of deaths per real date in that month: 47,038, according to data from the Ministry of Health), the Butantan Institute's profile set out to disprove disinformation related to post-vaccination death statistics in Chile, published on pastor Silas Malafaia's X profile (formerly, Twitter).[14] This fact-checking reveals an explicit object of verification of a post by a social network user with disinformative content, since data on hospitalizations in Chile were manipulated in order to be associated with the CoronaVac vaccination in the country.[15] In the text of the object of verification, there is also an association between the vaccine used in Chile (CoronaVac, produced by the Butantan Institute in partnership with the biopharmaceutical company Sinovac, based in China) and the then governor of São Paulo State – "sabe qual a vacina ? A MESMA QUE O DÓRIA UTILIZA!" (in English, "do you know which vaccine? THE SAME THAT DORIA USES!") –, which highlights the dispute over the use of CoronaVac in Brazil. As of the date of collection, the post had accumulated more than 30,000 likes.

In the visual-verbal text, there is a montage in which a hand is holding a smartphone on which the tweet in question appears. This configuration – the object of verification evidenced by a montage on the screen of a cell phone – is characteristic of the 2020-2021 period (all of the 25 posts from this period have a similar visual-verbal configuration), which indicates the need for the Institute's profile to show, in the process of checking and endorsing its authority, the proximity of the checked object (the disinformation in this case) to the digital media reader. It also indicates a visual-verbal strategy of proximity to the reading and writing practices of digital media readers, such as the consumption and sharing of information via cell phones. Superimposed on the object of verification, there is a visual-verbal element in capital letters that simulates a kind of "stamp" that classifies that information as false, using the formula[16] "fake news também é vírus" (in English, "fake news is also a virus"). This is repeatedly used in all publications of the period, characterizing a type of discursive strategy of pragmatic association of fake news with the idea of *propagation* and, especially, *potential danger*, just like the COVID-19 virus (discursively taken up by

14 He is an evangelical leader with great national and media projection, whose profile on the digital social network X (context of the publication; @PastorMalafaia) had accumulated around 1,500,000 followers by August 5, 2023.

15 Available at: https://brasil.elpais.com/internacional/2021-04-17/chile-afirma-que-coronavac-tem-80-de-efetividade-para-prevenir-mortes.html. Accessed on: August 5, 2023.

16 As theorized by Krieg Planque (2010, p. 09), the notion of discursive formula is related to "[...] a set of formulations which, by being used at a given moment and in a given public space, crystallize political and social issues that these expressions contribute to constructing at the same time". In Amossy (2022), the idea of formula appears linked to the process of verbal construction of legitimacy in discourse (along with opening and closing formulas, clichés, among others), as one of the strategies used by the subject in reference to a possibility of meaning (and the formulation of that meaning) that has already been given, and which in some way reinforces their position.

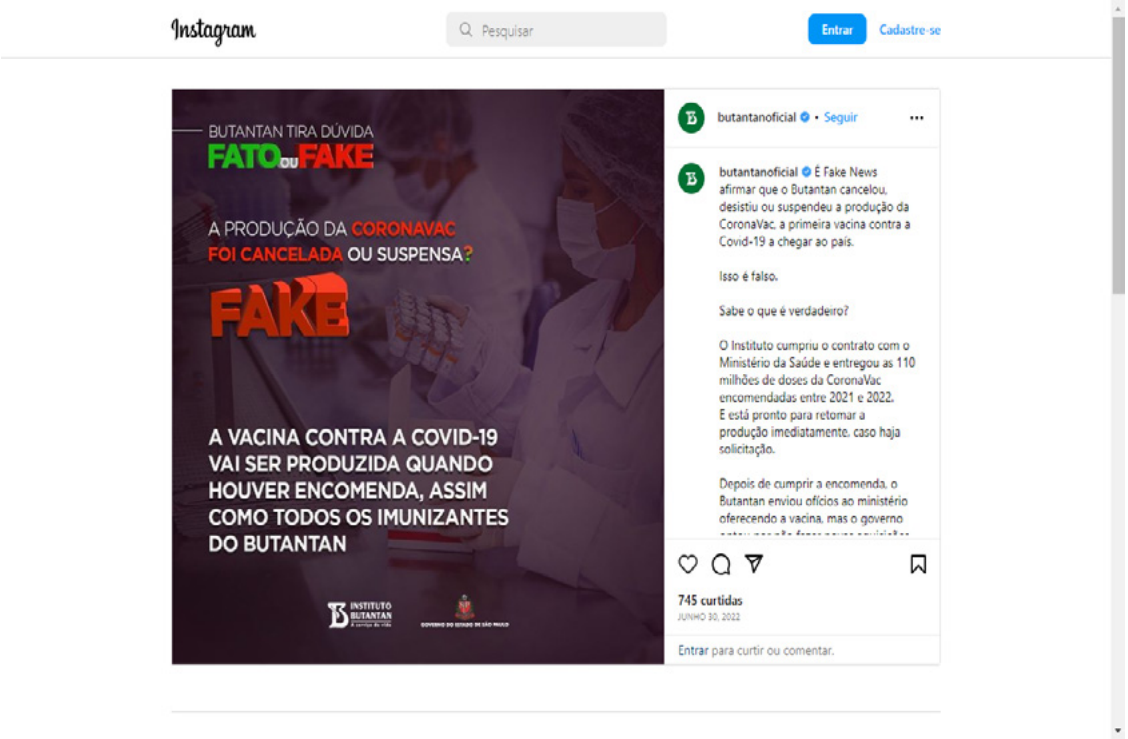
"também" [in English, "also"]). Thus, the formula "fake news is also a virus" is used and its organization transfers to fake news the same negative status as viruses, the great enemy to be fought in the pandemic. This association also sets out the authority of the person making this assessment, given that the Butantan Institute is dedicated to basic studies and research in the fields of biology and biomedicine, and is an important agency in the fight against the COVID-19 virus. At the bottom of the image, there is also the Butantan Institute logo next to the São Paulo State one, in order to demonstrate its solid institutional ties.

The verbal text of the publication caption is composed of 900 characters, the average number of publications in this period, which indicates a standardization of "quick" responses in line with the volume of dis- and misinformation to which the Institute responded on digital social networks. The succinct text is also intended to "facilitate" the digital media reader's access to checking information. In this caption, there are verbal marks of the construction of authority, in the process of legitimization, when mention is made of institutional bodies that justify a particular statement made by the enunciator (Amossy, 2022), such as the "Chilean Ministry of Health". It can also be said that, at the level of the authority of the statements, the mention of an international body and the use of the vaccine in a country other than Brazil is discursively related to a construction of authority linked to the use of an argument of the same nature, which, in a way, would "authorize" the (true) information conveyed by the Institute – as well as a *locus* of quality in argumentation (Perelman; Olbrechts-Tyteca, 1996).

In regard to a pragmatic argument, there is also (i) the association of disinformation with a real and collective risk, which could be read as a proposition that expects a responsive attitude from the reader of digital media (not sharing information of this nature and therefore not contributing to disinformation), and (ii) the use of quantitative data from the scientific study cited, a strategy which, on a pragmatic level, also expects an attitude from the reader through the presentation of data that "proves" the percentage of the vaccine's effectiveness and vaccination coverage, functioning rhetorically as a *locus* of quantity (Perelman; Olbrechts-Tyteca, 1996). Concerning the value-based argument, one can see the idea of a single truth value coming from the Institute, which intends "to silence" the false information due to the existence of one (single) truth on the subject in question – "É falso.../É *esta* a notícia verdadeira" (in English, "It's false.../ *This is* the true news") –, approaching the idea of (the possibility of) transparency in language (Komesu; Alexandre; Silva, 2020). As to the construction of an image of itself in discourse, the Institute's profile, in this pandemic period, prioritizes the demonstration of an experienced and competent *ethos* in the production of vaccines; With the use of the hashtags *#Podeconfiar*, *#ÉdoButantan*, *#VacinadoButantan* and *#Butantan120anos* (in

English, "*#Youcantrust*, *#ItsfromButantan*, *#VaccinatedButantan* and *#Butantan120years*), in addition to demonstrating scientific propriety, it seeks to prosper as a centralized (unique) and reliable source on the subject of *vaccination*.

Figure 2. Publication of the second period (2022)



Source: Screenshot from @butantanoficial Instagram post[17]

Figure 2 refers to a typical post of the second pandemic period (2022), characterized by a flexibilization of health regulations, a decrease in the number of cases of COVID-19 and, above all, an expansion in the use of other immunizers in Brazil, in addition to CoronaVac (the immunizer that started the vaccination campaign against COVID-19 in Brazil on 01/17/2021).[18] The period was also marked by the expansion of the public reached by the vaccination (including children) and the administration of booster doses to people who had already been vaccinated against the disease. In this publication, dated 06/30/2022, the Butantan Institute's profile sets out to debunk false information about

17 Available at: https://www.instagram.com/p/CfcESmXOOG3/. Accessed on: August 5, 2023.

18 At the beginning of 2022, the Brazilian government's Ministry of Health recorded CoronaVac in third place in the ranking of the most widely used COVID-19 vaccines in the country (84,2 million doses administered), behind Astrazeneca (115,6 million) and Pfizer (103,9 million), which began to be administered after the immunizer produced by the Butantan Institute and the Chinese biopharmaceutical company Sinovac. Available at: https://www.gov.br/saude/pt-br/assuntos/noticias/2022/janeiro/saiba-a-quantidade-de-doses-de-vacinas-covid-19-aplicadas-ate-o-momento-no-brasil-por-fabricante. Accessed on: August 5, 2023.

the production of CoronaVac. This is a non-explicit object of verification – i.e., although there is verification of the information as false or true, as well as argumentation around this classification, there is no mention, either in the static visual-verbal text or in the caption of the post, of the "first" origin of the information – a pattern observed in the other publications of the period, as opposed to what was noted in the previous period.

In the static visual-verbal text of the post, there is an image of the Institute employees' uniform – recognizable from their attire – handling doses of CoronaVac. The image has been treated in a way that does not allow the characters involved to be identified, serving as a background for the fact-checking information highlighted by the Institute's profile – "fato ou fake" (in English, "fact or fake"), the question guiding the verification, the answer to the question (classification of the information as true or false) and a brief summary of the argument. This is a visual-verbal style that is somewhat different from the style of the previous period, starting with the less accentuated concern to explain the object of verification. There is a predominance of the color red in the register of lies, falsehood or what is fake ("perigo!" [in English, "danger!"]) as opposed to what is *fact* (symbolized with the color green, representing health and hope in quality information). In the phrasing of the question to be answered in the verification – "a produção da CoronaVac foi cancelada ou suspensa?" (in English, "Has CoronaVac production been canceled or suspended?") –, we see the red highlighting of the passage "CoronaVac has been canceled" and its visual connection with "FAKE" in ascending format immediately afterwards, in order to produce a connection in the reading of the two pieces of information. As in the publications from the previous period, there is an association between the logo of Butantan Institute and that of the São Paulo State at the bottom of the image.

Unlike the previous one, this publication has a less succinct text, with 1,203 characters, which may indicate a less pronounced concern with the quick transmission of information (compared to the previous period, given the urgency of the vaccine debate and the discursive dispute at that time), since the reader is led to use the browser scroll bar or to click on the "read more" option in the social network application to access the full text of the caption. In the caption in question, there are marks of the construction of authority when mentioning the prerogatives that lead a research center, such as the Institute, to continue working to combat COVID-19 through vaccination, as it can be seen in the passage "o Butantan continua trabalhando" (in English, "Butantan continues to work"). That is, even though the effects of the pandemic are being felt in a milder way and the Institute continues to be the target of mis- and disinformation, its scientific production, which aims at the common good, continues, actually even including the inauguration of "the Multipurpose Vaccine Production Center, which will be able to manufacture CoronaVac

and other immunizers". This is related to a strategy of construction of authority linked to the discursive construction and re-elaboration of the *ethos* (Amossy, 2022) of the Institute, given that, being under direct attack by the object of verification, the institution argues in favor of the work it has been doing since the beginning of the COVID-19 pandemic and continues to do, defending itself against the disinformative statement.

At the level of the authority of the statements, this discursive position of defense is backed up by an argument based on the value of truth (as opposed to fake news), as evidenced by the relationship of opposition between truth and lies and the question posed to the reader in the discursive sequence: "Isso é falso/Sabe o que é verdadeiro?" (in English, "This is false/Do you know what is true?" (almost as if the Institute's profile were questioning the reader about who they were going to trust). Thus, in the set of publications from this period, we can see a defensive construction of *ethos*, more linked to an attempt to reaffirm the Institute's own *locus* (of quality) in the COVID-19 pandemic and less linked to the prioritization of authoritative arguments or even external sources to defend the immunizer or immunization. There are also hashtags such as *#ÉdoButantan*, *#VacinasSalvamVidas*, *#FujadasFakeNews* and *#CoronaVac* (in English, *#ItsfromButantan*, *#VaccinesSaveLives*, *#RunAwayfromFakeNews* and *#CoronaVac*). The slackening of the vaccine debate (and especially the controversy surrounding it) as early as 2022 can be sensed not only by the strategies mobilized by the Institute, but also by the number of likes to the publication analyzed – 745, a figure more than 97% lower than that of the publication from the previous period.

Figure 3 refers to a publication characteristic of the third pandemic period (2023), characterized by the end of the Public Health Emergency of International Concern (PHEIC) decreed by the World Health Organization (WHO)[19] and, mainly, by the reduced emphasis on the vaccine debate, with a consequent weakening of the discursive dispute around CoronaVac. In this publication, dated 03/21/2023, the Institute's profile proposes to verify information related to the use of booster doses of the COVID-19 vaccine, based on a non-explicit object of verification, similar to what is observed in the pattern of material from the previous period. In this way, it would be up to the reader to understand that what is being "verified" is widely circulating information (in society, on digital social networks), even if it is not materialized in the form of a specific and/or explicit object of verification (social network post, verifiable fake news, etc.).

19 We highlight the fact that, even though the end of ESPEII has been decreed, the COVID-19 pandemic status has been maintained, due to the still existing danger of spread, transmission and death.

Figure 3: Publication of the third period (2023)

Source: Screenshot from @butantanoficial Instagram post[20]

In the static visual-verbal segment characteristic of the posts from this period, we observed the use of images/photographs without any visual effect or treatment, which reveals a certain distance from the previous periods: in the first, there was a prioritization of displaying the object of verification in this visual-verbal segment, in the second, there was a display of an image related to the theme of the object of verification, but which took on the role of a background with a blur effect. We believe that the use of more "real" images (unique to each post) is related to a legitimacy construction strategy that seeks to get closer to the reader, in order to make the context of that check more tangible to them and their daily lives. In this verbal part of the publication, there is a strategy of indicating the address of the Institute's website, linked to a possible source of qualified information through the question "quer saber mais?" (in English, "do you want to know further?"). Fact-checking information, such as "fato ou fake" (in English, "fact or fake", with "fake" still in red and "fact" in blue), the classification of the object of verification and a brief explanation about it, is distributed between the top and the bottom of the visual-verbal text. Next to it,

20 Available at: https://www.instagram.com/p/CqDsk8KtS7S/. Accessed on: August 5, 2023.

there is a textual portion not identified in the publications from previous periods, which contributes to the construction of the meaning attributed to the verification – "entenda por que não era *fake news* [...]" (in English, "understand why it was not fake news [...]".

There are 1,043 characters in the publication caption, which is the average between the text in the first period (900 characters) and the text in the second period (1,203 characters), so the reader still needs to "expand" the text in some way, either by clicking on "read more" or by scrolling down. In the beginning of the text, there is the construction of a value-based argumentative framework, which initially invites the reader to follow the direction assumed to be "correct" (transparent) when confronted with disinformation, a move coordinated by the passage, "É preciso combater as fake news. E compartilhar conteúdo confiável. *Vamos a ele?*" (in English, "We need to fight against fake news. And share reliable content. *Shall we get to it?"*). In regard to the authority of the statements (Amossy, 2022), we recognize the strategy of resorting to an argument of authority rhetorically related to a *locus* of quality (Perelman; Olbrechts-Tyteca, 1996), when mentioning "autoridades de saúde" (in English, "health authorities"), to justify a change in the prerogatives previously followed to control the pandemic (start of vaccination), and "países desenvolvidos" (in English, "developed countries") to uphold the application of booster doses in Brazil based on a comparison with other territories (rhetorically of quality, as they are constructed as the object of discourse as "desenvolvidos" [in English,"developed"]); this is also a strategy to build institutional legitimacy in the eyes of the digital media reader.

In the publication, concerning the institution's authority, there is a strategy for reworking the *ethos* of the scientific community (and, consequently, of the Butantan Institute), insofar as the relationship between the need for booster doses and the possible ineffectiveness of the vaccine is denied (a disinformative argument), in addition to advocating in favor of the scientific reasoning itself, which is built on refutations and changes ("[...] o que mudou só mais tarde em razão do surgimento de novas variantes [...] e porque foi constatado [pelas autoridades de saúde] [...]", in English, "[...] which has only changed later due to the emergence of new variants [...] and because it was confirmed [by the health authorities] [...]"). Another aspect of the construction of authority is a discursive construction of the Institute's *ethos* linked to something already observed in the other periods: its predominance as a qualified source that would provide the reader with quick scientific training ("basta acessar o Portal do Butantan [...]", in English, "just access the Butantan Portal [...]") which is suitable to avoid future problems: "Para não cair em notícia falsa, ou em narrativas que tentam desqualificar os imunizantes, confira nosso conteúdo especial sobre o tema" (in English, "To avoid falling for fake news, or narratives that try to disqualify immunizers, check out our special content on the subject").

The hashtags are different from those previously used in the posts: where they used to read *#ÉdoButantan*, *#VacinadoButantan*, *#CoronaVac*, *#PodeConfiar* (in English, *#ItsfromButantan, #ButantanVaccine, #CoronaVac, #YouCanTrustIt*), they now read *#CuidamosDoSeuFuturo*, *#RespeitoAVacina*, *#GuiadoPelaCiencia*, *#Vacinação*, *#Covid19*, *#FakeNews* and *#FatoouFake* (in English, *#WeTakeCareofyourFuture*, *#RespectfortheVaccine*, *#GuidedByScience*, *#Vaccination*, *#Covid-19, #FakeNews* and *#FactorFake*), promoting a shift from previous periods in which the use of hashtags was restricted to the qualification of CoronaVac.

Final considerations

In this article, we discussed the role of a public health institution linked to the São Paulo state government in verifying information related to the COVID-19 vaccine(s). We sought to problematize different discursive strategies mobilized by the Butantan Institute's social profile on Instagram (@butantanoficial) in the construction of discursive authority around CoronaVac, in a context of health crisis, in the dispute around the meaning(s) of the immunizer, among attacks to the institution and to the vaccine. At a socio-historical conjuncture of disinformation and fake news, and the widespread use of digital social networks, how can one analyze the intersection between different social practices of reading and writing, constitutive of the work of a social profile that tries to deny dis- and misinformation about vaccination against COVID-19, while at the same time defending the CoronaVac vaccine (life, healthy social interaction)?

In analyzing the data, the hypothesis that different strategies would be used by the Institute's profile in different periods of the COVID-19 pandemic, according to the interests of the institution and the public, was confirmed. A general feature of the Institute's argumentation and construction of authority was the opposition between the values of *truth vs falsity*, which underpins the functioning of this series of fact-checking information on COVID-19 and, at the same time, discursively constructs an image of an Institute that has mechanisms to assert itself as a quality source of scientific information on CoronaVac. There is also the use of hashtags which outline the Institute's concern with affirming the origin and ownership of CoronaVac (on the one hand, Butantan's immunizer; on the other, the immunizer of all Brazilians).

Regarding the differences, we observed that in the first period (2020-2021), there was a greater concern with explaining the object of verification than in the other periods (2022 and 2023), which is evidenced by the direct mention both in the caption and in the image of the posts of what is being verified (publication on a social network, verifiable

fake news, information verified by a verification service, among others). On the one hand, this difference highlights the Institute's concern with the foundation of the produced verification, since, in the early years of the pandemic and vaccination, there might have been a greater need to reaffirm the nature of the vaccine and disprove rumors related to its efficacy and adverse effects, matters of direct interest to the reader. On the other hand, it highlights a break with the purpose of "fact or fake" publications, given that, in the period of 2022 and 2023, by not exposing the object of verification and not using authority arguments so markedly, for instance, the Institute moves away from the purpose of verifying information and gets closer to attempting to defend and permanently reaffirm the place which the centennial institution occupies, as well as its pioneering role in scientific production, compared to the rest of Brazil.

In the association between New Literacy Studies and French Discourse Analysis, we sought to discuss, based on the analysis of strategies for the construction of authority in the discourse(s), how visual-verbal texts are composed of interests that guide the process of their production. In a specific way, we tried to examine how discourses emerge in institutional practices in a context of crisis and dispute over objects which arouse from heated public debate, such as the COVID-19 vaccine in Brazil. The direction given to the analysis, featuring three subsequent periods of the pandemic, allowed us to investigate aspects relating to the dynamics of language itself, in its radically constitutive relationship with socio-historical aspects, an essential condition for working with discourse, which is key to understanding the different stages that marked the construction of institutional positions in confronting dis- and misinformation about COVID-19.

Finally, with Janks (2018, p. 26), we understand that discussing the change in posture of a centennial public institution, in its performance during a period of crisis, is related the realization that "the interests of texts do not always coincide with the interests of all and that they are open to reconstruction" and that "discourses produce us, speak through us and, however, can be challenged and changed". It is therefore a discussion about how dialogues between the sociocultural dimension of disinformation and fake news, as well as the linguistic-discursive one, in the context of the communication of scientific information during and after the pandemic, constitute what is in the interest of institutions, in the opacity of language.

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