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Historiographical practice in digital environments

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Abstract: This is an effort to articulate the historicity of the historical emergence of the digital era, within which our intimate coexistence with digital objects (digital books, digital libraries, digital databases, etc.) has occurred and which has led to the formation of a new type of subjectivity, informed by new forms of communication, communication of historical knowledge and the circulation of information. In digital environments, new challenges are being posed to academic and institutional work, some of which will be discussed, bibliographically, focusing on the Brazilian case, in this text. We conclude that as important as fully mastering the instruments and procedures necessary to carry out and validate research carried out in digital environments, the ethical commitment and care of researchers towards research participants must be.
Keywords: digital history; digital humanities; research ethics.

1 Introduction

Roy Rosenzweig is an American professor and historian, founder of the Center for History and New Media at George Mason University and an award-winning leader in several digital history projects. Between 2001 and 2006, Rosenzweig wrote a series of essays, which were published in Brazil only in 2022, but prove him a pioneer and an enthusiast of what is now called Digital History (Rosenzweig, 2022).

During the 1990s, Rosenzweig and the historians of his generation lived through a crisis in scientific journals in the United States and Europe caused by the vertiginous increase in the subscription fees for institutions and researchers – an indicative of the growing restriction in the access to this type of material for the general public. Driven by this event, and enthusiastic about the potential of using the world wide web for the democratization of historical knowledge, in 2000, Rosenzweig was given the opportunity and allowed for the universal access on the web to the important American Historical Review. His life and work, thus, have always combined efforts for the unrestricted use of academic and historical knowledge on the web for the American public and collaborative work between researchers (free from elitism and submission to commercial interests) (Rosenzweig, 2022).

In the last decade of the 20th century and the first decade of the 21st century, Rosenzweig and several scientists shared ideas concerning the open access movement in development aimed at removing the economic, legal, and technical barriers that prevented people from having free access to academic and scientific literature. The removal of said barriers should comprehend free access products from publishers, specific copyright and licenses to ensure the widest distribution and reuse of publications, as well as the existence of adequate technical infrastructures and institutional policies to support open access. Although this movement was not limited to the internet, the advent of the world wide web greatly favored it. It also favored the emergence of open science as a modality of scientific practice that relies on the social participation of non-scientists and scientists, open peer review, and the sharing of data, source codes and methods (Caballero-Rivero; Sánchez-Tarragó; Santos, 2019). This powerful way of doing science has been inspiring several scientists to defend the bases for a global management of open data, promoting open science (Dias; Jardilino, 2024), the transparency and the reuse of scientific data. Known as FAIR principles, the latter synthesize, in the acronym, a model for opening up data to be shared with the scientific community: Findable data, Accessible data, Interoperable data, which can be operated and integrated into different sets of data and systems, and Reusable in various projects (Henning *et al*, 2019).

Those are fairly new issues for science, despite the impression caused by the primacy of instantaneity of the web with the effect of suppressing our ability to handle the various novelties of this new era and naturalizing them as fast as they occur (to always seem up to date). That is possibly one of the aspects of the hypothesis proposed by Araújo and Pereira (2018), according to whom our current regime of historicity (our way of dealing with and understanding the passage of time) is called actualism, in which, among other things, both technological artifacts and individuals are "forced" to be (or to pretend that they are, in the case of individuals) always up to date.

Differently from the first years of the 21st century, it is now possible to claim that historians work digitally 24 hours a day and are greatly dependent on the internet. In fact, the emergence of digital society has changed life for those who are and are not engaging with computers and the internet. All productive services (agriculture, industries, trade and services), banks, communication, transports, geolocation, public

services, scientific production, political practices in general, specific action of Head of states and governments, medical practice, artistic and musical production, schooling, media, human relations (public, professional, private and intimate) as well as people have changed and continue to change fast. Everything that is alive has been touched by the existence of the world wide web. We are in it, with it, particularly on smartphones, and the fashionable word in education is digital literacy – meanwhile according to the Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (INEP), Brazil struggles to provide children with actual verbal literacy in the proper school levels (Brasil, 2024). The present article, based on bibliographical research, aims to discuss current historiographical practices in digital environments, as well as their ethical issued regarding historical records obtained directly from research participants.

2 History in the digital era

When the internet was first introduced to people's homes, its access depended exclusively on desktops (super-modern equipment with a fax modem board) connected to telephone lines that remained busy during the user's online time: one would either browse or speak on the phone. Such choice was made since telephone calls were quite expensive at the time and the majority of the population did not own telephones at home (payphones and, later, pagers were mostly used). For many middle-class citizens, the optimal time to browse was at night, after 10 pm, when the fare for the "pulses" was cheaper, or after midnight, using and paying for a single pulse until six in the morning (if the connection remained uninterrupted). That window also opened from 2 pm on Saturdays to 6 am on Mondays and on holidays. Real life was deliberately casted aside to connect to the internet, to a virtual life. It was a fully conscious choice. Today, a large part of society lives, at the same time, in the real world and in the virtual world, thus opening for debate the issue of personal choices in view, for example, that the world of work greatly increased the demand for simultaneity, especially after the COVID 19 pandemic.

Before this era, the world was conceived as something solely physical and/or spiritual, depending on one's beliefs. Today, one can inhabit (with all the implications of this action), work and investigate in any instance of the virtual world through a network of computers, which is divided, for the time being, into three: surface net, deep

web and dark net. Although the deeper layers of the internet are not easily accessible, it is interesting that such environments exist and that they are also inhabited by people, scientists and organizations that defend "good", humanitarian, democratic, libertarian, environmentalist and pacifist values and actions.

A wealth of information and materials from the past are easily within our reach (as never before in history), all the time, on the internet (in all its layers). Indeed, this we are the first generation to exist in closer temporal proximity to past cultural artifacts than any generation before us. We have had more contact with the records of the past than our ancestors had. In correspondence to the digital age, as Pereira (2022) claims, we have created the culture of real virtuality, in which we are in the permanently connected present and which renders our pasts present in various ways (Pereira, 2022, p. 20-21), for better or for worse.

We render present, for instance, modern slavery, both to defend anti-slavery and anti-racism and to justify the indelible presence of racism. Using that device to prevent social development – as goes the classical argument “things are the way they are because they have always been like they are” – reminds us of the central thesis of Martins’ (1994) work on Brazil’s “slow history”. According to the author’s analyses, the Brazilian elites have and will work to value the “power of backwardness” and, with it, their own power (Martins, 1994).

In this new world, digital history has risen powerfully in the defense of the preservation/collectivization of past-past records, that is, records of times prior to the internet. These records could be "copied" and transformed into digital objects, to be stored in preferably open access databases for both specialists and the general public. At the same time, with the world's galloping creative adherence to the internet, and with the exponential proliferation of materials and records made available by millions of individuals, governments, and corporations worldwide, specialists, pioneered by Rosenzweig (2022), have come to recognize the importance of studying, preserving, and providing access to such productions as historical sources of the present so that, in the near or distant future, those potentially ephemeral records may be examined by future generations of historians. Hence, Rosenzweig's book (2022) title titled “The Future of the Past”.

Rosenzweig’s (2022) thesis, full of motivating intentions, argued that historians at the beginning of the 21st century, with the opportunities opened up by the use of the

internet, were being called upon to overcome what he called the "culture of scarcity" of sources (and those who work with the nineteenth and previous centuries in Brazil know this well) and replace it with the "paradigm of abundance" (Rosenzweig, 2022, p. 41). Rosenzweig's (2022) emphasis was not only on the need to preserve, but also to democratize access to the many records for whom held the interest in the past and joined their safekeeping, whether specialists, students or simply ordinary people. Among his first-line allies were archivists and librarians, using direct words and praise for their work, with which I share:

> Archivists and librarians have intensely debated and discussed digitisation and digital presentation for more than a decade. They have written hundreds of articles and reports, undertaken research projects, and organized conferences and workshops…(however) academic and teaching historians have taken almost no part in these conferences and have contributed almost nothing to this burgeoning literature. Historical journals have published nothing on the topic (Rosenzweig, 2022, p. 75)[1].

Although the internet has become an inevitable part of life and work in various fields, as a historian, I argue that working digitally is not the same as doing digital history since the actions of dissemination of historiography and teaching history on the internet do not characterize, by themselves, the realization of digital history. Despite constitutive and currently necessary, that work may be done even by those who are not dedicated to historiographical production. Indeed, the so-called digital history is made by historians who use, construct and preserve sources created and obtained in digital or digitized format, which are organized, analyzed and systematized (in research reports and other publications), based on and according to the mastery of software, through computational devices and the internet.

Searching for research groups that contain "Digital History" in their headings and/or as a research field and/or among their keywords in the directory of research groups of the National Council for Scientific and Technological Development[2] (CNPq), 03 groups were found: one at the Universidade Federal do Pará's Digital History in Pan-Amazonia (História Digital na Panamazônia), another at the Universidade Federal de Uberlândia's Laboratory of Digital History (Laboratório de História Digital – LASHID)

[1] Rosenzweig, R. Scarcity or Abundance? Preserving the Past in the Digital Age. *American Historical Review*, n. 108, v. 3, pp. 735-762, 2003. Available at: http://chnm.gmu.edu/digitalhistory/links/pdf/introduction/0.6b.pdf Accessed on 13 Fev. 2026

[2] The names of organizations will be provided in English without their Portuguese counterpart when there is an official translation in use on institutional websites. In the absence of an official English version, the Portuguese name is provided in parentheses.

and the third at the Universidade Federal Fluminense's Laboratory of Digital, Public and Social History of Education (Laboratório de História Digital, Pública e Social da Educação). Such results cover the impressive interval of almost ten years. On that subject, Nicodemo, Rota and Marino (2018) pointed out in the introduction to a collective work on the field published by their own research group:

> Despite gaining strength in Brazil in recent years, the so-called digital history is not yet a fully established field. There are still no research centers that produce continuous research around this concept, not even regular courses or a well-established publishing market (Nicodemo; Route; Marino, 2018, p. 8).

Searches in the Brazilian Digital Library of Theses and Dissertations (Biblioteca Digital Brasileira de Teses e Dissertações - BDTD) using the descriptor "digital history" as subject found 15 theses and 02 dissertations specifically on digital history. The first two records are two theses from 2016, that is, less than 10 years ago. The first dissertation dates from 2020. Therefore, digital history was not named in research prior to 2016, which shows how recent is the adhesion by scholars and the novelty of the subject to our graduate programs.

A similar search in the articles on the database of CAPES Journals (Periódicos CAPES), using the descriptor "digital history" failed to produce results, which reinforces the argument of the recent presence of this practice/knowledge in our work. On Google Scholar, the search failed to generate any results before the year 2000. From 2001 to 2010, the search, which included all languages and all types of findings, except for citations, retrieved 04 titles, all related to communications in academic events. For the following decade, from 2011 to 2020, 40 results were retrieved, among which 24 were articles, 10 were communication for events, 03 were theses and 02 were undergraduation monographs – one of the results failed to use "digital history" in the title. There is a significant increase in the number of both general and specialized published works in over a decade. From 2021 to 2025, 106 results were retrieved in over 10 pages, however, the search engine preserved the use of the descriptor until page 06, after which the title failed to mention "digital history" and some results were duplicated. In that interval, it was possible to retrieve 02 books, 32 articles, 04 communication, 04 monographs, 02 thesis, 01 course program, 01 dossier and 02 works that were unavailable. Hence, five years generated almost the same number of

articles found in the last decade, indicating that, albeit recent, this subject of digital history has mobilized efforts in the field of History.

3 New tools

Digital historiography holds similarities and singularities to analog historiography. According to Barros (2022), since the 1990s, we have been living the fourth transversal revolution of humanity (after the creation of digital communication protocols that connected almost all parts and people in the planet). The first was the Neolithic revolution, that followed the invention of agriculture (more than 10 thousand years ago); the second was the urban revolution (5 thousand years ago); the third was the industrial revolution (18th and 19th centuries). This fourth revolution is responsible for changing how most of the planet's population produces, lives, thinks, exists and relates to one another. Barros (2022) resorted to varied bibliography (both analog and digital) to name this period the digital age and the society that has emerged from it, the digital society.

According to a survey by the Center for Applied Information Technology (Centro de Tecnologia de Informação Aplicada) at Fundação Getulio Vargas's Sao Paulo School of Business Administration (FGV), in 2024, in Brazil alone, there were 480 million digital devices in use "[...] with an average of 2.2 devices per inhabitant [...]". These devices comprehended from computers, smartphones to laptops or tablets, that is, equipment with immediate and permanent connection to the internet, which allows for the performance of simultaneous tasks independently form the "pulses" of the past.

Also in mid-2024, the Brazilian Internet Steering Committee released a survey carried out by the Regional Center for Studies on the Development of the Information Society (Cetic, 2026) — the organization responsible for producing indicators and statistics on the access and the use of the internet in Brazil — on what it called "significant connectivity", which is, broadly speaking, an indicator (expressed by a score of ranges) to measure whether people have satisfactory access to the internet. The Cetic survey concluded, primarily, that 84% of network users, over 10 years old, have access to the internet, however, only 22% have satisfactory connectivity conditions. Secondarily, according to this survey, the higher the level of satisfaction, the greater the user's digital literacy (Cetic, 2024). These figures highlight an extremely

important issue that will be approached later on: "[...] those with the most fragile and precarious access are, precisely, those with the least competence to mitigate the risks associated with the uses of the internet, many of which are still unpredictable" (Cetic, 2024). In other words, it is noteworthy that despite a transversal revolution, the social living and working conditions of the majority of the population that works for a living have changed little, even or despite the internet.

What were those historians (academics and professors) doing in 2001 when, from Rosenzweig's critical perspective, they were “allowing" the future of the past to be lost at a time that preceded social media – it is worth recalling that "the first social network platform, Friendster, was launched in 2002 by the Canadian student Jonathan Abrams" (Barros, 2022, p. 76) –, which has become constitutive of our sociability? They were working with rules that had been established since the 19th century: they were building their research object and locating their collections, memory institutions and/or places (public or private) in which (mostly written) records about that object may be obtained. They were moving (crossing continents) to investigate, to obtain and to copy (transcribe, photograph, microfilm, reproduce) the records of their interest. They were searching archives, libraries, private collections and bookstores assiduously to analyze and select, one by one, the records on the references they found. They were visiting specialists in person. They were organizing the and, if quantifiable, they we employing computational resources in the tasks of quantification and statistical explanation. Oftentimes, parts of the text were handwritten and delivered to third parties to digitize, formalize and format them. Even nowadays, there are scholars who would rather use pen/pencil and the paper/notebook first, and move their work to the computer afterwards. Once the research was finished and digitized, it was saved on a floppy disk or CD-ROM) and printed (in several volumes, especially as and academic prerequisite for obtaining a title). Then, with luck, the findings were published in physical books and in articles in physical academic journals, which made up the physical collections of libraries, archives, memory institutions (if they met the proper structural conditions to purchase them) and personal collection of historians.

The need for researchers’ physical displacement has diminished due to the increase in digitization, to the digital availability of historical sources materially existing in physical institutions and of a good part of articles published in journals, and to the existence of digital books. Moreover, there are situations in which the very definition of

a research object may depend on the existence of digitized sources about him. Regarding the tools made available in this new era, there is software that may be used even on smartphones, through which almost all stages of source handling can be carried out: obtaining and systematizing specific records from a digital collection (data mining or locating a needle in a haystack), organizing them according to the purposes of the research, analyzing them (according to the type of record) and storing them on the "cloud" (remote international servers) rather than at home on a personal computer or local hard drives.

Digitally, historians of various nationalities are able to collaborate remotely and work online (e.g., Google meet) for digital organizations in activities that include teaching, research, management, and developing community outreach programs. Historians can create and run digital archives and platforms collaborative design, data input, and cataloguing. They create, organize and participate in virtual events and evaluate their peer's (digital) production online. Moreover, they share research procedures, co-edit and co-author digital books and papers (that may reach audiences of all levels of education when published in open access format) as well as several websites. They prepare, submit and evaluate proposals in response to calls for research funding (which are also published exclusively on the internet). In addition, they connect through social media as individuals and/or as research groups, engaging in public debates and disseminating their work and their colleague's work and producing individual and collective blogs, podcasts, newsletters among other forms of digital communication.

4 Digital Humanities and challenges

It seems that spending fewer working hours on physical displacements means greater efficiency in carrying out searches. Having access to a larger and more diversified set of records, approaches, individuals and scientific works allows us to share/publicize and reuse our productions much more quickly and assertively. Considering that digitizing documents is still selective, therefore political, the process may be greatly advantageous. Nonetheless, physical collections must be continuously preserved and the work of documentary criticism ought to face and incorporate the issue of partiality of digital collections and the narrative they aim to promote, much like memory institutions and physical archives.

From the perspective of the “glass half empty”, the current crisis in funding universities (Infomoney, 2025), public research institutes and documentary memory, particularly in Brazil, poses a significant threat since the non-digitization of public archives can limit researchers to digital sources. That is troublesome for the public patrimony and for science in general. In 2001, Rosenzweig (2022, p. 365) approached the issue by asking:

> Will digitization create a new historical research canon in which historians resort much more regularly to works that can be found and searched easily online rather than sought out in more remote repositories?[3]

A history undergraduate student or a Brazilian historian interested in the 19th century, for example, can work exclusively (depending on their research focus) on digital sources from the Digital Newspaper Library (Hemeroteca Digital) at the National Library, Portuguese-Brazilian Digital Library, Fundação Getúlio Vargas’s Center for Research and Documentation on Contemporary Brazilian History, which collect digital epistolary sources from the 19th century, and from Portugal’s National Digital Library. The most well-known institutions were cited, but there are thousands of other organizations within and outside the Luso-Brazilian realm open to researchers, much like Rosenzweig (2022) envisioned.

Since 2004, we have witnessed the consolidation of the academic, professional and interdisciplinary community of Digital Humanities. That community gathers Humanities scholars from various fields, including historians, programmers, computer scientists, digital technology developers (such as Palladio) interested in different disciplines and chronological cohorts – some of which can be investigated in the Dossier “Humanidades Digitais” published by the journal “Estudos Históricos” in 2020. In Brazil, this community is represented by the Brazilian Association of Digital Humanities (Associação Brasileira de Humanidades Digitais), which has its own journal, the “Revista Brasileira de Humanidades Digitais”. The journal is supposedly biannual but the website, however, only displays articles published in 2022. In addition, this community has organized the international congresses of digital humanities and

[3] Rosenzweig, R. The Road to Xanadu: Public and Private Pathways on the History Web. *Journal of American History* n. 88, v. 2, pp. 548-579, 2001. Available at: https://rrchnm.org/essays/the-road-to-xanadu-public-and-private-pathways-on-the-history-web/ Accessed on 13 Fev. 2026

the national symposia on media, technologies and history. The former are on their 4th edition, whereas the latter will be hosting their 5th edition in May 2026.

In addition to the works of Nicodemo (2018), the open-access journal Programming Historian (that offers peer review and methods for digital historians) stands as an example of the activities of the community. The journal displays an index with “Lessons” on different tools to obtain, transform, analyze, present and preserve digital sources (Programming Historian, 2026). Studying the group's productions enabled the realization that, unlike analog history, doing digital history and digital humanities requires, in addition to the theoretical and methodological mastery of their field, the mastery of programming languages to execute the “lessons” that the aforementioned journal intend to teach. The field requires fluent English and skills to manage big data, which can only be done by means of computational tools, which require mastered as well. Digital history and humanities also require scholars understand the instructional logic of computers (the algorithms); know and operate data standardization technologies, precisely to enable their sharing, availability, and reuse by individuals, communities, and institutions. These scholars work with sources (of any temporality) that have been digitized and made available online, but they also construct their own research objects based on digital sources, that is, those originated in the very internet after the 1990s (Barros, 2022, p. 73).

As for advancements, let us resume an example of the work done by researchers dedicated to the 19th-century and before: transcribing codices and manuscripts. Those who have faced such challenge can describe it graphically, particularly if after getting used to a writer’s style (after struggling for days), the following documents belong to a different writer and the research needs to start over. Accessing the codices (depending on the memory institution, the condition of the collection, the goodwill of the secretary, etc.), each writer, each type of writing meant a different struggle. Nowadays, there are great digital tools to transcribe manuscripts (Read-coop, 2025). Digital tools to transcribe audio and video, such as *Audicity* and *Transcribe* means the same advancement. Much like with codices, the once extenuating work of transcription has been facilitated by digital tools.

Above all else, historiography faces the challenge of not losing sight of its purpose in the attempt to meet the demands of the digital age. As stated by Luccesi

(2014, p. 53) when she was taking her masters, more than 10 years ago, and before becoming a reference in the articulation of digital history with public history:

> [...] History remains a science based on sources, specific methods, and debates among peers. Neither technologies nor digital history operate a radical break with these foundations, but rather they add new devices and tools to the workshop of history, but the fundamentals of the discipline remain the same.

In addition, history continues to be an eminently political discipline, based on historians' repertoire of knowledge, material conditions, values, personal choices, institutional positions, and intentions (De Certeau, 2011, p. 45-11).

The dream of open history, sought by Rosenzweig (2022), is the challenge proposed to the current generation of historians in the digital age, committed to the "fabrication" of the past, as proposed by De Certeau (2014), and who may (or may not) make digital history. This generation is challenged to foster the objective conditions so that, in their research, their data may be located, integrated with several other systems and, finally, reused by their peers. Refraining from an in-depth approach, referencing sources (exhaustively) and indicating their location can be conceived as one of the fundamental rules of historiography. That is a principle that differentiates us even from communication workers, such as journalists, who cannot disclose their sources. But, with regard to the other principles, how to achieve them? That is not a pointless question.

To address the availability of analog sources, if it were possible to envision a scenery in which all physical records of the past, prior to the internet, from all collections and memory institutions, could be digitized and made available – overcoming the notion that digitization is a mere representation, not the record itself with texture, blots, smell etc. –, the efforts to preserve them would face serious difficulties, for example, due to the speed of obsolescence of digital tools (both software and hardware). From an environmental perspective, preserving those global digital collections – that added to the existing archives in operation in the virtual world and to the millions of websites that are created daily – would require a massive infrastructure of data centers, which consume immense spaces, growing volumes of electrical resources and water, generating high emission of carbon dioxide. Finally, considering the elevated cost of that structure and the ever-expensive devices and means of private access to the internet (including screens) in this world of inequality, it is possible

to claim that, besides the insufficiency of natural resources, the privatization of knowledge about the past would accelerate and the limited access would become a constant. Approaching the other FAIR principles is not possible at present, however, technological limitations, the influence of particularities on institutional culture and on the work of historians would (and do) hinder the Interoperability and reuse of data in research about History despite all technological advancement.

Apart from these basic issues, the current comeback of US neo-imperialism in the present presents a challenge in particular for Latin American countries regarding the issue of the internet. Considering the ownership of search engines and data centers, without which it becomes impossible to produce science on the internet, US companies lead or hold majority in these sectors in many markets. On top of our complete technological dependence lies the fact that several fields, for example, in the Humanities (experts in imperialism) are discussing the possibility of turning bibliometric measures from Google Scholar their most recent strategy to verify the quality in the writings of *stricto sensu* graduation programs in Brazil. If true, that would compromise the autonomy of Brazilian scientists and their scientific production. It is hard to believe that the country that invented PIX, a revolution in the global banking-financial system cannot create their own metrics, detached from US big techs, to assess their own academic production.

Currently, several of the tools used in digital history or digital humanities rely on the help of artificial intelligence, whether predictive (those that anticipate results for the uses attributed to it), generative (those that create, invent content and cultural artifacts such as works of art, music, texts, images or others) or both. According to Sampaio, Sabbatini and Limongi (2024), the emergence of generative AI seemed like a “meteor capable of impacting all aspects of social life, including means of production and circulation of scientific knowledge” (Sampaio; Sabbatini; Limongi, 2024, p. 12). That technology, based on prompts written in ordinary language, allows for the execution of several tasks which were performed exclusively by us: from writing personal e-mails to creating machine programming protocols. This unprecedented ease and the generative function of AIs raise four issues that should be considered by those who work with these technologies according to Sampaio, Sabbatini and Limongi (2024).

Because these technologies are produced by private companies, big tech is under the control and the machine training promoted by those companies, which largely reflect foreign and, particularly, US interests. Consequently, the data produced by scientists become property of these companies (as with everything we do, so far) and the data generated by these tools tend to express their scientific assumptions and worldviews. Machine training is done according to the available data, shared through internet access and user interaction with these systems. Hence, data associated with social groups that have greater access to digital technologies — not the 78% identified by the survey of the Internet Steering Committee in Brazil, as discussed previously — tend to prevail over the others, reproducing and deepening social inequalities. According to Sampaio, Sabbatini and Limongi (2024), there is always the possibility that AI systems may provide incorrect answers since they are trained to answer quickly rather than correctly. Therefore, the answers obtained through generative AIs should be placed under scrutiny. In agreement with authors and their intention of outlining principles for the scientifically honest use of these tools, I would like to conclude by drawing attention to an issue I find fundamental and to which I have frequently returned.

5 Conclusion

Currently, in Brazil, according to the census of higher education promoted by INEP, 9.9 million students enrolled in 2023, corresponding to just over 18% of the total population up to 25 years old. Among these, only 2.07 million enrolled in public higher education (a system that comprehends 69 Brazilian federal universities). According to data collected by the Coordination for the Improvement of Higher Education Personnel (CAPES), in 2024, there were 10 PhDs doctors for every 100 thousand inhabitants, approximately, 0.01% of the population. These data display the significant educational inequality in Brazil, and the extent to which researchers are a super elite in Brazilian society, despite little to no efforts ever being made to recognize that social place. This absolute minority is the one that carries out most scientific research in Brazil, and may constitute the minority of those 22% of the population that claimed satisfactory connectivity conditions, according to the survey carried out by the Internet Steering Committee in Brazil in 2024. In view of this situation of absolute privilege, it is up to us, scientists, to have a protective and ethical attitude towards the majority of the

population, who despite not making science, often participate in it, providing their personal data and life span, to our scientific enterprises.

Research ethics emerged in Brazil in the 1990s (along with the Internet, open access, and open science) to protect individuals from scientists' (disrespectful, racist, sexist, ableist etc.) investigative practices initially within health sciences and later within the humanities as well. It was within this context that the National Research Ethics Commission (Comissão Nacional de Ética em Pesquisa - CONEP) was established, as a commission of the National Health Council (Conselho Nacional de Saúde - CNS). The CNS and its plenary, composed of representatives from across Brazilian society in the form of social control, have been responsible, for over 30 years, for building, regulating and overseeing a system that comprehends about 900 research ethics committees distributed throughout the country, and for formulating the ethical rules that remained in force until last year. In 2025, the interests of the pharmaceutical industry (U.S. American predominantly), focused on facilitating the approval of clinical research, were upheld by the Brazilian Congress with the passage of Law 14.874 of 2024 (Brasil, 2024), which both the CONEP and the CNS spent over a decade opposing. The approval of this law resulted in the loss of several rights for research participants, weakening of the CONEP (that used to lead the most unified, extensive, and socially participatory ethical system in the world) and the creation of a new supposedly "regulatory" body for research ethics, named National Instance of Ethics in Research (Instância Nacional de Ética em Pesquisa - INAEP). Notwithstanding, in the INEAP, there are no representatives for research participants, who used to be central figures in the CONEP. The constitutionality of that law is under review in the Supremo Tribunal Federal - STF, following a direct action of unconstitutionality filed by the Brazilian Society of Bioethics (Sociedade Brasileira de Bioética - SBB). Several institutions joined the case as *amicus curiae*, in support of the thesis of unconstitutionality, among them, the UNESCO Chair of Bioethics, which operates in partnership with the International Center for Bioethics and Humanities (Centro Internacional de Bioética e Humanidades) at Universidade de Brasilia.

It is unnecessary to rehearse the sad episodes in the history of science in the 20th century, when human beings served as guinea pigs during the Second World War, but it is good warning that researchers in the humanities also took part in them. This we learned from the historian Ingrao (2015) in his analyses of the work of 80 doctors

(historians, philologists, jurists, economists and philosophers and others) who participated in the barbarities promoted by the Nazis. As a matter of fact, seven of the twelve convicted in the Nuremberg trials were professionally active in the humanities: a primary teacher and writer of children's books, four lawyers and two journalists. In January 2020, historians were appalled when Roberto Rêgo Pinheiro (known by his artistic alias Roberto Alvim) – professor of History of Theater and Dramatic Literature; Director of the Teatro Ziembinski and winner of the award for best show at the 5th Prêmio Bravo! Prime de Cultura – paraphrased Joseph Goebbels, Nazi Germany's Minister of Propaganda and ideologue of the regime, in an institutional video for the Department of Culture. Joseph Goebbels was also a PhD doctor in Romantic Literature. Hence the argument that humanities need to abide by ethical rules, both the ones elaborated by specialists in specific fields and the ones for peer review. Researchers in the great field of humanities must participate in the research ethics committees across the country and fight the Law 14.874 of 2024. Fellow scientists, heirs of Nuremberg, whether historians or digital humanists or else. We must be aware of our ethical commitment when dealing with the internet and generative artificial intelligence, especially, to manage data (the lives, pain, activities, feelings, struggles and dreams) of real living individuals. Assuming we are fully aware of how predictive digital tools operate, we must always ask what may happen to those data: whether they may stigmatize individuals (Andrade; Röhe, 2023), where they may end up (e.g., on the web), how they may be used for machine learning, whether they may be copied or tampered with, whether they may be fully or partially leaked, or whether they entail other unlisted risks.

It is necessary to continuously create opportunities for reflection and to clarify that, despite the importance of identifying research participants in the final manuscripts – a common practice among historians that parts with the ethical principle of data privacy –, participants can change opinions regarding their statements or the data they provided. That should concern research participants of all ages, but particularly young participants. On the one hand, there is the current process of consent and assent between researchers and participants (Brasil, 2016), a fundamental achievement enabled by the formulation and implementation of CNS Resolution 510/2016 and authored by the CONEP with the Forum of Humanities and Social Sciences, Applied Social Sciences, Languages, Linguistics and Arts (Fórum de Ciências Humanas e

Sociais, Sociais Aplicadas, Letras, Linguística e Artes – CHSSALLA). On the other hand, researchers must emphasize, to exhaustion, risks and their ignorance of them, regardless of signed consent and assent.

Future is always present, much like the past. It seems time can no longer pass nor make things be forgotten, as goes the words of the poet (Bastos; Blanc, 1998) in a song immortalized by Nana Caymi. We still lack investigations on the subjectivities formed in this regime of historicity, that affects the younger population, and implies ultimately the end of the "end" as we know it. In 1996, the Brazilian musical group *O Rappa* referred to a "fisher of illusions" in an endless book. That is no longer an illusion, since digital life may as well be an endless book (Yuka *et al*, 1996). Once such object comes into existence, a new name becomes necessary, since books require beginning, middle and end.

In 2014, the Court of the European Union following the human rights agenda sanctioned the "right to be forgotten" (Pereira, 2022) based on the fact that, between May and July of that year, Google had received 91 million requests for content removal. Research participants must be aware of the uncontrollable, indelible and unforgettable consequences of having their data available on the internet due to software functions or the publishing of investigation findings. In addition, when data are personal or sensitive (related to celebrities, to one's intimacy, personal or private life) or undergo a particular treatment, the risks must be thoroughly explained to participants and their understanding of them clear.

We have witnessed the rise of artificial-based technology that produces realistic images and sounds in movements and puts at risk all such records currently available online, such as Kling AI 3.0. It is assumed that intellectuals and/or public figures and/or celebrities may find difficulties in reverting the possible negative and immediate effects when that perverse technology is used against them. Let us imagine what is left for the ordinary citizen who lacks resources, access to justice and schooling. Awareness must be raised against the risks of damage(s), loss(es), pain(s) or embarrassment that every technological advancement may present to the lives of individuals of little schooling and no digital literacy who lack "significant connectivity". Therefore, scientific practices committed to a better world are as important as our hope in the positivity of the ambiences for historiographical making, in our commitment to the criteria for scientific validation of digital practicers in the digital age – mediated or

not by AIs, which turn infinite the possibilities of knowing the things of the world. Those practices must be anchored in the right of research participants to information, privacy and in our unconditional duty of protecting data used to construct our research objects, instruct digital devices and conduct research.

REFERÊNCIAS

ANDRADE, Gabriela; RÖHE, Anderson. A Inteligência Artificial e os Direitos Fundamentais. **TECCOGS– Revista Digital de Tecnologias Cognitivas**, n. 28. 2023, p. 45–55. Available at: https://revistas.pucsp.br/index.php/teccogs/article/view/67066. Accessed on: May 19, 2025.

ARAUJO, Valdei; PEREIRA, Mateus. **Atualismo 1.0**: como a ideia de atualização mudou o século XXI. Mariana: Ed. SBTHH, 2018.

BARROS, José d'Assunção (org.). **História digital**: a historiografia diante dos recursos e demandas de um novo tempo. Petrópolis, RJ: Vozes, 2022.

BASTOS, Cristóvão; BLANC, Aldir. Resposta ao tempo. *In*: CAYMMI, Nana. **Resposta ao tempo**. Rio de Janeiro: EMI, 1998. 1 CD. Faixa 1.

BIBLIOTECA DIGITAL BRASILEIRA DE TESES E DISSERTAÇÕES (BDTD). **Resultados de busca para o assunto**: "História digital". Brasília, DF: IBICT, [2026]. Available at: https://bdtd.ibict.br/vufind/Search/Results?join=AND&bool0%5B%5D=AND&lookfor0%5B%5D=%22Hist%C3%B3ria+digital%22&type0%5B%5D=Subject. Accessed on: May 19, 2025.

BRASIL. Conselho Nacional de Saúde. **Resolução nº 510, de 07 de abril de 2016**. Dispõe sobre as normas aplicáveis a pesquisas em Ciências Humanas e Sociais. Brasília, DF, 24 maio 2016. Available at: https://www.gov.br/conselho-nacional-de-saude/pt-br/atos-normativos/resolucoes/2016/resolucao-no-510.pdf/view. Accessed on: May 19, 2025.

BRASIL. Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES). **Brasil precisa aumentar número de doutores**. Brasília, DF: CAPES, 2023. Available at: https://www.gov.br/capes/pt-br/assuntos/noticias/brasil-precisa-aumentar-numero-de-doutores. Accessed on: May 19, 2025.

BRASIL. INEP. **Pesquisa alfabetiza Brasil**. Brasília, DF: INEP, 2024. Available at: https://download.inep.gov.br/alfabetiza_brasil/brasil_2024_2.pdf. Accessed on: January 3, 2026.

BRASIL. Lei nº 14.874, de 28 de maio de 2024. **Dispõe sobre a pesquisa com seres humanos e institui o Sistema Nacional de Ética em Pesquisa com Seres Humanos**. Brasília, DF: Presidência da República, [2024]. Available at: https://www.planalto.gov.br/ccivil_03/_ato2023-2026/2024/lei/l14874.htm. Accessed on: January 3, 2026.

BRASIL. Ministério do Desenvolvimento e Assistência Social, Família e Combate à Fome. **CNCA Nacional 2025**: relatório de revisão. Brasília, DF: MDS, nov. 2025. Available at: https://download.inep.gov.br/alfabetiza_brasil/brasil_2024_2.pdf. Accessed on: January 3, 2026.

CABALLERO-RIVERO, Alejandro; SÁNCHEZ-TARRAGÓ, Nancy; SANTOS, Raimundo Nonato Macedo dos. Práticas de Ciência Aberta da comunidade acadêmica brasileira: estudo a partir da produção científica. **Transinformação**, Campinas, v. 31, e190029, 2019. Available at: https://www.scielo.br/j/tinf/a/5hgYK97mbcjRdZL7dfRDzvD/abstract/?lang=pt. Accessed on: January 3, 2026.

CENTRO REGIONAL DE ESTUDOS PARA O DESENVOLVIMENTO DA SOCIEDADE DA INFORMAÇÃO (Cetic.br). **Portal Cetic.br**. São Paulo: CGI.br, [2026]. Available at: http://Cetic.br. Accessed on: January 3, 2026.

COMITÊ GESTOR DA INTERNET NO BRASIL (CGI.br). **Perto da universalização do acesso à Internet, Brasil ainda tem maioria da população com baixa** Available at: **conectividade significativa, revela novo estudo**. São Paulo: CGI.br, 15 abr. 2024. Available at: https://cgi.br/noticia/releases/perto-da-universalizacao-do-acesso-a-internet-brasil-ainda-tem-maioria-da-populacao-com-baixa-conectividade-significativa-revela-novo-estudo/. Accessed on: January 3, 2026.

COMITÊ GESTOR DA INTERNET NO BRASIL. **Conectividade significativa**: propostas para medição e o retrato da população no Brasil. São Paulo: Comitê Gestor da Internet no Brasil, 2024. 154 p. (Cadernos NIC.br Estudos Setoriais). Available at: https://cetic.br/media/docs/publicacoes/7/20240415183307/estudos_setoriais-conectividade_significativa.pdf. Accessed on: January 3, 2026.

CORRÊA FILHO, Heleno R. INAEP: a ética da elite influente em oposição à ética compartilhada com o controle social. **Revista Saúde Debate**, V.49, N.147, e147ED, OUT-DEZ 2025. Available at: https://www.viomundo.com.br/blogdasaude/heleno-correa-inaep-a-etica-de-elite-influente-em-oposicao-a-etica-compartilhada-com-o-controle-social.html. Accessed on: January 3, 2026.

DE CERTEAU, Michel. **A invenção do cotidiano**: 1. artes de fazer. Tradução de Ephraim Ferreira Alves. 22. ed. Petrópolis: Vozes, 2014.

DE CERTEAU, Michel. A operação historiográfica. *In*: CERTEAU, Michel de. **A escrita da história**. Tradução de Maria de Lourdes Menezes. 3. ed. Rio de Janeiro: Forense Universitária, 2011. p. 45-111.

DIAS, Erika Simone de Almeida Carlos; JARDILINO, José Rubens Lima. O campo editorial e os desafios contemporâneos: reflexões sobre a Ciência Aberta. **Revista Diálogo Educacional**, Curitiba, v. 24, n. 82, p. 925-942, jul. 2024. DOI: https://doi.org/10.7213/1981-416x.24.082.ds05. Available at: http://educa.fcc.org.br/scielo.php?script=sci_arttext&pid=S1981-416X2024000300925&lng=pt&nrm=iso. Accessed on: January 3, 2026.

HENNING, Patricia Corrêa *et al*. GO FAIR e os princípios FAIR: o que representam para a expansão dos dados de pesquisa no âmbito da Ciência Aberta. **Em Questão**, Porto Alegre, v. 25, n. 2, p. 389-412, maio/ago. 2019. Available at: https://seer.ufrgs.br//EmQuestao/article/view/84753. Accessed on: January 3, 2026.

HUMANIDADES Digitais, Rio de Janeiro: CPDOC, 2020. **Revista Estudos Históricos**. v. 33, n. 69, 2020. Available at: https://bibliotecadigital.fgv.br/ojs/index.php/reh/issue/view/4179. Accessed on: January 3, 2026.

INGRAO, Christian. **Crer e destruir**: os intelectuais na máquina de guerra da SS". Zahar: 2015.

LUCCHESI, Anita. Conversas na antessala da academia: o presente, a oralidade e a história pública digital. **História Oral**, [*S. l.*] v. 17, n. 1, p. 39-69, jan./jun. 2014.

MARTINS, José de Souza. O poder do atraso: ensaios de sociologia da história lenta. São Paulo: Hucitec, 1994.

MARZANO, Marco. **Os EUA inauguram uma nova era de intervenções na América Latina**. Tradução: Ricardo Machado. São Leopoldo: IHU, 2025. Available at: https://www.ihu.unisinos.br/categorias/660951-os-eua-inauguram-uma-nova-era-de-intervencoes-na-america-latina. Accessed on: January 3, 2026.

NICODEMO, Thiago Lima; ROTA, Alesson R., MARINO, Ian Kisil. Introdução: das humanidades digitais à história digital. *In*: NICODEMO, Thiago Lima; PEREIRA, Mateus Henrique de Faria; SANTOS, Ricardo Pinto dos (org.). **Caminhos da história digital no Brasil**. Vitória: Edufes, 2018. p.08. Disponível em: edufes.ufes.br. Accessed on: January 3, 2026.

PAULICEA 2.0: mapeamento colaborativo da história de São Paulo. Available at: https://pauliceia.unifesp.br/portal/home. Accessed on: January 3, 2026.

PEREIRA, Mateus Henrique de Faria. **Lembrança do presente**: ensaios sobre a condição histórica na era da internet. Belo Horizonte: Autêntica, 2022.

PIMENTA, Ricardo M; ALVES, Daniel (org.). **Humanidades digitais e o mundo lusófono**. Rio de Janeiro: Editora FGV, 2021. Available at: https://editora.fgv.br/produto/humanidades-digitais-e-o-mundo-lusofono-3625. Accessed on: May 19, 2025.

PROGRAMMING HISTORIAN. Lições: transformando dados. [*S. l.*]: Programming Historian, [2026]. Disponível em: https://programminghistorian.org/pt/licoes/?activity=transforming&sortType=date&sortOrder=desc. Accessed on: May 19, 2025.

READ-COOP. **Transkribus**. Available at: https://readcoop.eu/model/portuguese-handwriting-16th-19th-century/. Accessed on: May 19, 2025.

ROSENZWEIG, Roy. Clio conectada. **O futuro do passado na era digital**. Belo horizonte: Autêntica editora, 2022.

SAMPAIO, Rafael Cardosos; SABBATINI, Marcelo; LIMONGI, Ricardo. **Diretrizes para o uso ético e responsável da inteligência artificial generativa**: um guia prático para pesquisadores. São Paulo: Editora Intercom, 2024. Available at: https://prpg.unicamp.br/wp-content/uploads/sites/10/2025/01/livro-diretrizes-ia-1.pdf. Accessed on: January 3, 2026.

SANTOS, Henrique Machado dos; FLORES, Daniel. Os impactos da obsolescência tecnológica frente à preservação de documentos digitais. **Brazilian Journal of Information Studies: Research Trends**, João Pessoa, v. 11, n. 2, p. 28-37, jul./dez. 2017. Available at: https://revistas.marilia.unesp.br/index.php/bjis/article/view/5550. Accessed on: January 3, 2026.

SEMESP. **15º Mapa do Ensino Superior no Brasil**: Dados Brasil. São Paulo: Instituto Semesp, 2025. Available at: https://www.semesp.org.br/mapa/edicao-15/brasil/. Accessed on: January 3, 2026.

UNIVERSIDADES FEDERAIS SOFREM CORTE DE R$ 488 MILHÕES NO ORÇAMENTO 2026. **InfoMoney**, [*S. l.*], 2026. Available at: https://www.infomoney.com.br/politica/universidades-federais-sofrem-corte-de-r-488-milhoes-no-orcamento-2026/. Accessed on: January 3, 2026.

YUKA, Marcelo; FALCÃO, Marcelo; FARIAS, Lauro; LOBATO, Marcelo; XANDÃO. Pescador de ilusões. Intérprete: O Rappa. In: Rappa-Mundi. Warner Music Brasil, 1996.

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