The Atlas of Brazilian Digital Literature[1]

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Abstract: The Atlas of Brazilian Digital Literature is the first and the only digital archive of digital literature in Brazil to date. It reunites the documentation (taxonomic description, images, videos, interviews with the authors, and critical fortune) of 150 works and counting. This article reports the challenges related to the construction and maintenance of the Atlas, which led to the formation of the Brazilian Digital Literature Observatory, a research group dedicated to follow and critically analyze the production of Brazilian digital literature, to propose alternatives for its preservation, and to discuss the changes in the literary system at a time when print culture and digital culture coexist.

Keywords: Brazilian digital literature, archive, preservation, literary system

1. Literature in Digital Context

In the introduction to *El lenguaje de los nuevos medios de comunicación (The Language of New Media)*, Lev Manovich laments the fact that in the early days of the development of cinema, between the end of the 19th century and the beginning of the 20th century, no effort was made to document everything that involved that new medium: the perception of viewers, the enthusiasm of creators and their experiments with the newly discovered language, the objects resulting from these experiments, the possible relationships that began to be established between the new language and those languages already consolidated. He also laments that all that can be found about the birth of that new art technique—and a new technology—are fragmented, not systematized remnants of the newspapers of that time, uncompromising chronicles, and personal documents from a few enthusiasts. To this, Manovich adds a concern: while he was writing his book, at the turn of the 21st century, as a new medium arises and gets popularized, bringing up new techniques, technologies, a new culture, and new artistic languages, would not we—scholars and experts—once again be wasting a chance to document this whole process? In Manovich's words this issue is even more

poignant:

> Future researchers will wonder why the theoreticians, who already had plenty of experience analyzing older cultural forms, did not try to describe computer media's semiotic codes, modes of address, and audience reception patterns. [...] why didn't they attempt to construct a similar genealogy for the language of computer media at the moment when it was just coming into being, while the elements of previous cultural forms going into its making were still clearly visible, still recognizable before melting into a new unity? Where were the theoreticians at the moment when the icons and the buttons of multimedia interfaces were like wet paint on a just-completed painting, before they became universal conventions and thus slipped into invisibility? (50)

By posing such questions to cultural scholars, Manovich argues for a "culture of the present" that is able to theorize by documenting, an effort commonly absent in studies that focus on new digital media. Such studies, even with a consensus that we are witnessing a revolution in the ways of producing, circulating, consuming, and legitimating cultural objects, prefer to look ahead on the effects of its revolution rather than describing, mapping, making a "cartography" of what is happening now (51), as the tools, processes, languages, and strategies of production and reception are not yet settled or consolidated.

Against such a problem, which will leave all scholars of digital culture soon alienated from a history of the development of new media, Manovich proposes a theory that must be elaborated along with an effort of documentation that seeks to describe/analyze theoretically what is being documented. Documenting and theorizing, although having an important relationship, are activities that are still justified separately. Even if changes in technology—which seem unpredictable for those who are not experts in cutting-edge technologies—hinder theoretical formulations, the effort of documenting remains important, since it describes even the virtual possibilities that were not carried out, which is important for the understanding of cultural history.

The discomfort and concern that permeate Manovich's book affect scholars in other fields of culture and arts, since the digital reality is shared by everyone: producers, consumers, and scholars of culture, arts, literature.

As with cinema, the new media have not only offered new technical possibilities that soon become new artistic languages (visual, linguistic, sound) for different art forms—literature among them—but have also altered already consolidated artistic languages.

Since this process is not new, it is necessary to understand specifically what is happening now, in the relation between literature and the new media in the present time, in order to map the process and, from that, understand and analyze it from a critical-theoretical point of view that should come precisely from the process, from what cannot yet be identified as the top literature that will emerge from the popularization of digital media (and yet it is unknown if this "top literature" can be evaluated using the same parameters used for print culture).

The question "Can there be print culture after print?" posed by Nunberg (15), is not irrelevant if we think of digital media not only as forms of circulation and support for the fruition of textuality

in the contemporary world, but also as devices for the production and storage of these textualities. However, this question puts us, once again, as hostages of a prediction exercise from which other questions would derive, many of them already well known: will the printed book vanish? Will there be literature if books (and print culture) disappear? Is the way we read on the screen propitious to literary reading?

Accepting this challenge launched by Manovich, the project that originated the Atlas of Brazilian Digital Literature archive did not have as a main question the future of Literature in digital reality and all that arises from it, with regard to the production, circulation, reception, and legitimation of literature. Rather, the focus was mapping the digital literary production in its current situation, at the moment in which print culture and digital culture coexist, when the latter enables a less natural view on the procedures of the former, and when the former imposes itself as a term of comparison and a parameter that often limits the understanding of the latter. Subsequently, from this mapping, we could propose reflections, metalanguage, and analyses regarding the Brazilian digital literature.

Digital materiality is what fundamentally characterizes digital literature. That is, the language of computer codes is what demands that digital literature be read of a screen of an electronic device, which opens possibilities for multimodal, hypertextual, and transmedia experimentations along with the verbal materiality of such works. Art has always been closely related to the techniques and technologies of its time and artists are pioneers in adopting them. This adoption tests and blurs the limits of the programmed functions of technology, in the terms of Arlindo Machado, therefore, to understand digital literature, it is fundamental to also understand the socio-technical development of informational capitalism—including regarding inequalities, which are an inherent part of the capitalist system—and how it impacts the ways of producing, circulating, consuming, understanding, and legitimating literary production in a digital context and in a country of the Global South, like Brazil.

Studies such as those by Janet Murray, George P. Landow, Espen Aarseth, and Katherine Hayles—to cite some that circulate more in Brazil—demonstrate that there are multiple aesthetic possibilities and critical and theoretical difficulties for digital literature since its beginning. In addition, authors like Kozak and Gainza have not left aside the regional specificities, when discussing, for example, how these possibilities and difficulties in appropriating digital technologies happen in countries on the periphery of technological development, and the impact not only on the production of digital literature, but also on its condition of circulation and legitimation in Latin American countries.

A panoramic look at the critical and theoretical production that often supports the reflections on digital literature in Brazil reveals that the great contribution to the studies on the subject—especially with regard to a specific poetics, built on the articulation between the language of computer codes and verbal language—has Anglo-Saxon origins, with special relevance of the studies produced in the United States.[2] This is not a problem a priori, but it is important to emphasize that the digital works analyzed by the most popular critical-theoretical works in this field of study are North American. Therefore, the history that begins to consolidate regarding the development of digital

literature—we could say, the canon that begins to be established—takes as a starting and finishing point for theory the North American digital literary production. Thus, the digital literature that ends up circulating and being analyzed in most of the works is that literature produced in English and in a context of development and technological appropriation that is very different from Latin America.

Regarding the works analyzed in the theses, dissertations, and articles written by Brazilian scholars, many are also from the United States. This comes not only from the fact that the United States very early consolidated a field of studies in digital literature, supported by the Electronic Literature Organization[3]—the largest association on the subject in the world—but also by the difficulties of circulation of digital literature among us, Brazilian scholars, despite the profusion of production. Only recently, in Latin America, there have been efforts to systematically map[4] this production and, above all, to archive the works and survey the authors who, like other places in the world, began to experiment with digital technology as soon as it became increasingly available, since the popularization of devices in the first decade of the 2000s. Thus, even if the obsolescence of software and platforms in which digital works are conceived still remains a challenge for digital literature produced in Brazil,[5] it is already possible to foresee a scenario in which Brazilian and Latin American digital works begin to be addressed frequently in course syllabi, as objects of analysis in theses and dissertations, in articles, and books, which was something very rare a few years ago. This is no small thing, since it is from academic literary criticism that we can expect the formulation of a specific metalanguage, capable of adequately analyzing a literature that is produced in a context of tension between print and digital culture, with all that this encompasses in terms of challenges for the understanding of the works and the literary system in which they are produced.

The Repository of Brazilian Digital Literature[6] project funded by CNPq and developed between March 2019 and March 2022 was conceived with these challenges in mind: to describe and analyze what is happening with literature at a moment when authors experiment with programming language and digital media, producing works and remodeling their circulation, reading, and legitimation spaces, in a geopolitically situated context, in a country of the Global South, therefore assuming a given position within informational capitalism. This context impacts not only the production conditions of digital literature among us, but also how we face obsolescence and, therefore, guarantee the circulation and the study of digital literary works produced in Brazil and, thus, guarantee the recognition of the specificities of such works in the construction of a repertoire that, in dialogue with the European and North American productions, keeps important difference in relation to them. The most relevant results of this project are the Atlas and the Observatory of Brazilian Digital Literature, currently hosted in the servers of the Federal University of São Carlos (available on www.observatorioldigital.ufscar.br).

2. The Atlas and the Observatory of Brazilian Digital Literature

The project Repository of Brazilian Digital Literature, from which the Atlas of Brazilian Digital Literature results, intended to deal with the challenges involving the three tasks presented before: mapping, archive/preservation, and analysis. Although it may seem obvious that the first

activity would be mapping, it soon became evident that, as the mapped works would form the archive and be subject to analysis, the analysis itself posed us questions that necessarily resulted in changes in the mapping criteria and, consequently, impacted the ways of preservation and led to a specific way of organizing the works in the archive. The reason for that is the already mentioned ignorance regarding the Brazilian digital literary production, commonly analyzed as "flawed" in relation to the canonical corpus established by the also canonical critical texts from American and Europeans scholars.

To overcome this problem, a methodological strategy was to begin the mapping from other studies and anthologies that had already, at some point, conferred critical legitimation to the works. This strategy had little effect, given the framework already mentioned: scarcity of previous works dedicated to mapping the Brazilian digital literary production, the absence of Brazilian digital literature as a corpus for theses, dissertations, and articles and, finally, the negligible number of Brazilian works in anthologies such as the Electronic Literature Collection.[7] Although the results of this first stage of mapping were less fruitful than expected, some clues about how and where Brazilian digital literature circulated began to emerge. We could observe a considerable amount of works that we could call transcoded, as proposed by Lev Manovich:[8] this works previously existed in print, closely connected with Brazilian concretism movement—and in some cases created by author that are part of this movement. We also noticed the profusion of works produced by authors that did not refer to themselves as writers of digital literature and very often were very weakly linked to the literary system.

Both findings can be measured numerically in the archive:[9] from the 150 works mapped so far, 28% are transcoded—which emphasizes the impact that experiments of Concretism have on Brazilian digital literary production; and 54% of the authors in the archive have only produced one digital work, evidencing a field in which experiments do not always unfold into long-lasting, consolidated literary projects.

As the mapping progressed and because there was the initial ambition to propose ways to preserve the digital literary works—many of them already irremediably lost—it was urgent to adopt a taxonomy that could support the documentation of the works. In other two articles I analyze the specificities, difficulties, and possibilities of preservation of digital literary works[10], but in this article it is enough to mention that the taxonomy that we used as a basis for starting the description of the works in the archive—which would later support the metadata and the search filters—was conceived by the CELL Project,[11] although with some changes that could evidence some of the specificities of the Brazilian production. As the mapping progressed and we became more familiar with the works produced in Brazil and Latin America, it was necessary to rethink the metadata, a task that was carried out in partnership with the team of the project Cartografía Crítica de la Literatura Digital Latinoamericana (Critical Cartography of Latin American Digital Literature), coordinated by Carolina Gainza and Carolina Zúñiga, both researchers from the Diego Portales University in Chile.

In the field of digital arts it was possible to learn preservation strategies in a technical medium characterized by ephemerality and obsolescence such as the digital medium. In the case of a digital archive of digital literature, ephemerality and obsolescence are not only characteristics of the works

that the Atlas intends to archive and preserve, but of the archive itself. It soon became clear that emulation and adaptation of the original context of each work would become repetitive, expensive, and not very feasible strategies for an archive that was intended to be as extensive as possible in number of works. Because of that, we opted for the documentation of the works in a digital archive that does not intend exactly to fight obsolescence, but to document even this process, through not only the taxonomic description, as mentioned before, but also through images, videos, interviews with authors, and a collection of critical literature that addresses each of the archived works. This multimodal characteristic was present not only in the digital literary works, but also in the documentation resulting from them and gathered in the digital archive, leading to the necessity of a platform that could host and display all of these data. It was not possible to find platforms dedicated to the archiving of bibliographic material. Tainacan,[12] a free software that runs as a WordPress plugin, was developed at the University of Brasilia to, at first, support digitized museum collections, and was chosen for this project both for allowing the incorporation of text, image, and video, and for easy customization and update features. A digital archive of digital literature that is intended to be alive, i.e., in frequent expansion and revision, must be hosted in a platform that can be easily handled, besides offering support whenever a new demand arises from new works made in new formats and new software.

Katherine Hayles borrowed from the field of genetics a provocative and elusive definition for digital literature when calling it a "hopeful monster composed of parts drawn from diverse traditions [print, digital, etc.] and not always put together in an organized manner" (21).

We agree with Hayles and recognize the difficulty of the task of circumscribing in an archive such imprecise limits of literary objects whose existence defies the stability with which, for a long time, we have characterized everything that is called a "work." In this archive, therefore, we have to deal with the fact that the material it archives does not have a fully institutionalized status. For Salgado, who analyzes the constitution of the Atlas and the Observatory from a discursive-mediological perspective, the digital literary production gathered and made available in the Atlas does not have yet a consolidated matrix of sociability that gives it support, so such production is (still) not (fully) understood in the disciplinary and institutional limits that govern much of our understanding of culture. In her words, such production is not part of the ethical worlds

> [...] of Literature, which imply a whole tradition linked to printed books, to the canons established by certain awards, certain publishing houses and a certain circulation in media, with interviews with certain journalists or channels and not to others, like the booktubers, for example. [...] They are also not objects implied in the ethical world of academic research, which requires a well-established metalanguage and also funding and international works that provide symbolic capital to the national production. [...] These objects are not seen in the ethical world of the publishing market, which still do not understand the digital works and their production stages. These stages are very different from the production chains for printed books and ebooks and are set to deliver a final product that always follows the same pattern and depend on specific professionals that perform specific tasks, which is also very different from the ethical world in which self-published editorial objects are made or that are seen as digital

art and not as an editorial object itself. (Salgado 45)

Thus, the establishment of an Observatory of Brazilian Digital Literature was an unavoidable task to which we dedicated ourselves since the beginning of the mapping of the digital literary production, precisely because we were attentive to what Lev Manovich said about allying the critical-theoretical production to the documentation process. The Observatory, which works as a research group, is dedicated to the tasks of mapping and inserting new works in the archive, in a never ceasing movement, as well as maintaining the platform and paying attention to any changes that happen to the works already in the archive—some of them stop being accessible, due to software obsolescence, while others regain accessibility, thanks to a new emulator; other works are moved to new domains when the authors are no longer in charge of maintaining them; not to mention the critical literature that gains new texts that need to be included in the documentation of the work, etc. It is about assuming the task of "vigilantes of metamorphosis," as proposed by Sánchez-Mesa (13).

The metamorphosis, however, is not limited to works included or soon to be included in the Atlas, or even to the platform that hosts the archive. It is also beyond the modifications that often happen to digital literature itself, so deeply marked by the expeditious changes of digital technology and, currently, of networks and platforms. The metamorphosis also happens to the literary system to which, as mentioned before, digital literature is incorporated not without tensions and problems of the most varied kinds.
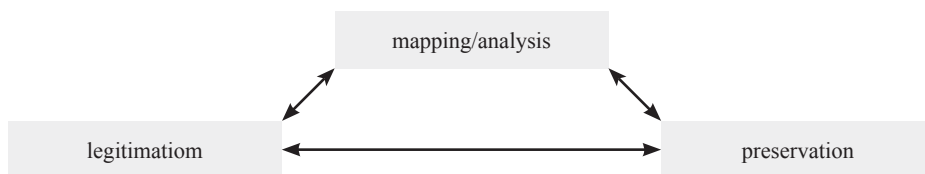

Figure 1   a scheme of the Observatory working process

It is task of the research[13] developed by researchers from different levels of training, who are part of the Observatory team, to understand and address the position that digital literature assumes within the polisystem of Brazilian culture, as well as within the literary polisystem. Furthermore, these researchers must also investigate how the insertion of products, producers, consumers, and the market, crossed by a digital logic, alter the established repertoires, raising questions about the way the system works[14] and pressuring institutions to confer legitimacy to works that until recently would not be considered part of the literary system.

It is evident that, from what I have said so far, the work of mapping and analyzing greatly support the tasks of preservation and drives the legitimation of digital literary production within the literary system[15]. At the same time, the legitimation of the production may foster new preservation projects that will ensure that such works, in the future, can be accessed and studied by more parties who are interested. This virtuous circle could be represented as follows:

3. Challenges and Prospects

Today, to navigate the Atlas is to access a very particular moment of Brazilian digital literature and this concerns the prevalence of specific poetics and technique. Despite the fact that the archive reunites, to date, works produced between 1965 and 2021, a considerable part of the 150 works, more specifically 36.67% of them, were published between 1999 and 2003. I mentioned earlier the strong presence of transcoded words that resonate with the Brazilian concretist production. It is worth drawing attention to the fact that most of these works were produced when Flash was the most popular software in Brazil to create object that combined image, sound, and movement. This software is now obsolete and is no longer supported in most web browsers. This scenario allows us to observe that the Atlas is an archive eminently dedicated to archive what Katherine Hayles calls the Second Generation of Digital Poetry, which started in 1995, with the appearance of the Web, when experiences with multimodality gained prominence and verbal and non-verbal matter coexisted in works with a profusion of image, sound, and movement.

Recently, Leonardo Flores proposed some changes to Hayles's periodization: Flores argues that the second generation (or movement, as he understands) extends until the present day and coexists with a third generation that emerges with the popularization of platforms and APIs—a moment in which Web 2.0 starts to be popularized, as some argue (web). The discussion shows how, in each of the generations, digital literature becomes accessible to a higher number of users, exploding in the third generation as a consequence of the popularity of social networks.

Behind the proposed revision of periodicity proposed by Leonardo Flores lies something more complex, related to a revision of how digital literature has been defined, understood, and analyzed. A literature that has been considered experimental, cultivated by only a few initiates—that is, written and produced by people interested in the experiments that come from mixing computational and poetic languages—often developed in "experimental communities" and "creative laboratories" (Kozak 10-11) and linked to research institutions.

It is important to underline that the profusion of Brazilian digital literature—this one mapped in the Atlas—happened in spite of all technical difficulties for its productions. It is also necessary to underline that after a very prolific moment, between the years of 1999 and 2003, the production decreased considerably. Or did it? What if what decreased, in fact, was the creation of digital literary works that were typical of a specific socio-technical and cultural moment that has already transformed?

Taking into account the reflections made by Leonardo Flores and Claudia Kozak, who also made provocative remarks about how the characteristic of the second generation of digital literature have imposed themselves as paradigmatic for the field—and, I admit, also for the Atlas—perhaps it is necessary, as a next step, to effectively watch this metamorphosis, to investigate in what other spaces and in what other ways literary production have taken advantage of digital media, not only to rely on poetic experimentalism but also to conquer new audiences. Perhaps it is necessary to look at this production, understand its specificities and its scope, formulate new taxonomic and descriptive categories, and invent new forms of archiving and preservation. In other words, to start all over again.

Notes

1. Avaliable at www.observatorioldigital.ufscar.br/atlas-da-literatura-digital-brasileira/
2. Research projects by Gabriela Goulart Gritti (tiny.cc/nb80vz) and Carla Agnes da Silva tiny.cc/ob80vz) evidence this data.
3. Available at eliterature.org/
4. For example, the archive Cartografía de la Literatura Digital Latinoamericana (www.cartografiadigital.cl/).
5. Unfortunately, we are very far from an ideal scenario in which research in Humanities is valued and funded in Brazil, a scenario that could allow us to develop a project like NEXT, related to the Electronic Literature Organization (Available at the-next.eliterature.org/).
6. This project can be found at tiny.cc/2980vz.
7. Only in late 2020 did the Red de Literatura Electrónica Latinoamericana publish its Antología LiteLat (antologia.litelat. net/), with a significant number of Brazilian works.
8. According to Manovich, "Transcodificar algo es traducirlo a otro formato. La informatización de la cultura lleva a cabo de manera gradual una transcodificación similar en relación con otras categorías y conceptos culturales." ("To transcode something is to translate it into a new format. The informatization of culture gradually carries out a similar transcodification in relation to other categories and cultural concepts"; my trans. 94).
9. The database is available at repositorio.ufscar.br/handle/ufscar/16087.
10. Off the shelf: issues of archiving and preserving digital literature (www.scielo.cl/scielo.php?script=sci_arttext&pid=S0719-51762021000100290&lng=es&nrm=iso&tlng=pt) and The literary memory: archive in databases time (to be published).
11. Available at cellproject.net/
12. Available at tainacan.org/
13. Completed and ongoing projects research projects can be consulted at www.observatorioldigital.ufscar.br/projeto/.
14. The literary system is understood, in this article, based on the formulations by Itamar Even-Zohar, see *Polisistemas de cultura*. Universidade de Telaviv, 2017.
15. I discuss this issue more deeply in the book chapter "Archivo como institución: el caso del Atlas de la Literatura Digital Brasileña" (to be published).

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