

Curating Digital Archives: Interoperability and Appropriation in Po-ex.net¹

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The inherent complexity of multimodal databases constitutes a challenge in terms of structuring and interoperability. However, it also stimulates the translation of organized data into enhanced and adaptable interfaces. Using the Digital Archive of Portuguese Experimental Literature (www.po-ex.net) as a framework, I will describe possible strategies for curating digital archives, through appropriation and remixing of database assets, allowing artistic and creative re-interpretations of experimental and electronic literature.

Concepts: the archive; the digital; digital archives

The Archive

Archives are accumulations of physical materials, safekeeping public and private records, but they also serve to regulate, as the etymology of the word confirms: deriving from the verb *arkhō*, to archive is to rule, to govern. Keeping the past in order, archives help us to communicate with the future. Hence Jacques Derrida, in his *Archive Fever*, arguing for its preparedness to the future: “[...] the question of the archive is not [...] a question of the past. [...] It is a question of the *future*, the question of the future itself, the question of a *response*, of a promise and of a responsibility for tomorrow” (1996: 36; my italics).

Safeguarding the past for “times to come” entails a selection process, and consequently some questions: what gets to be archived? What is *archivable*? The *Golden Record*, a 12-inch gold-plated copper disk with archived sounds and images

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that “portray the diversity of life and culture on Earth”, is NASA response to the question, placing messages aboard Voyagers 1 and 2, a “time capsule”, as they admit, “intended to communicate a story of our world to extraterrestrials”.³

Of course, for Foucault, archives are not these physical accumulations of documents and data; nor the buildings and storages where those collections are located. Rather, the archive encloses “systems of statements” (1972: 128) which, as is the case with all statements for him, are available to be “institutionalized, received, used, re-used, combined together” (115) at any moment, forming a statement of existence. In his words:

The archive is [...] that which determines that all these things said do not accumulate endlessly in an amorphous mass [...]; but they are grouped together in distinct figures, composed together in accordance with multiple relations, maintained or blurred in accordance with specific regularities [...] (FOUCAULT, 1972: 128-129).

The archive cannot be simply apprehended by an idea of accumulation(s), but it signals and encompasses a discourse of totality: “the idea of *accumulating* everything, of establishing a sort of general archive, the will to *enclose* in one place all times, all epochs, all forms, all tastes [...], this whole idea belongs to our modernity” (FOUCAULT, 1986: 26; my italics).

This totalizing view is enacted and remediated with current Big Data. And totalizing approaches turn archives into “manifestation[s] of power, [...] symbol[s] of authenticity and authority” (HUI, 2013), in the same way that *Google* and/or *Facebook* struggle to keep, organize, and aggregate our private lives on records, on servers, in “the cloud”.

These questions may as well be observed through the lens of how archives are portrayed in contemporary art and literature. Christian Boltanski’s “Les Archives de C. B., 1965–1988”,⁴ for instance, is a collection of over 2,000 photographs, letters, and other personal and professional documents, anticipating, as Kate Palmer Albers acknowledges, our “fascination and obsession with the total archive”. Albers rightly reminds us that the boxes where the archives are confined, bearing no labels, imply that “inaccessibility is built into their design and presentation” (2011: 252). And she concludes: “[t]he work teases the viewer, and particularly the scholarly one: twenty-three years worth of archival material, safely ensconced in a museum’s care, *but rendered inaccessible*” (252; my italics). More than a silent archive, or an archive of silences, it’s the silenced archive that we witness here. Albers further argues that “[t]hrough their autobiographical specificity, these projects demonstrate the artist’s ongoing compulsion to attend to the problem of ‘saving

3. Quoted from ‘What is the Golden Record?’, online: <http://voyager.jpl.nasa.gov/spacecraft/goldenrec.html>.

4. More information about this work can be found at the Centre Pompidou’s website: www.centrepompidou.fr/cpv/resource/c4rrdBq/ryjRG8r.

everything' while simultaneously underscoring that it is only retroactively that we can produce a narrative" (2011: 252).

Boltanski's archive of every-thing (or of no-thing?) echoes in Kenneth Goldsmith's *Printing out the Internet*, from 2013, inspired by Aaron Swartz's case with Big Data (to simplify...), and created in partnership with LABOR and Ubu-Web. A provocation, as are many others by Goldsmith, but one raising many relevant questions, namely how power is exercised through totality, and how the indeterminacy and impermanence of networks provides a good opportunity for a change of mindsets.

And if "printing out the [whole] web" is an impossible task by definition, much in the same way that Boltanski's archival materials are *rendered inaccessible*, in the case of sound artist Christian Marclay, it's the illegibility of representation that seems to sustain "White noise",⁵ an installation of photographs from 1993, where readers can only "see" their backs.

Open-ended, dispersed (much like the web), Boltanski's display of personal archives stands "outside of time and inaccessible to its ravages" (FOUCAULT, 1986: 26). Silenced, and as lonely as the Golden Record, traveling through space. In Marclay's pieces, however, silent forms of erasure become "white noise". And they seem to ask us, again: what gets to be archived? And what archives get to be silenced, erased, or deleted?

Graffiti, much like a palimpsest, is also about erasures. Palimpsests are multi-layered texts/surfaces, scraped or washed off in order for the scroll or page to be reused for another document. For Gérard Genette (1982), palimpsests have been metaphors for "second degree" forms of literature and art. In Banksy's "Cave Painting Removal" (from May 2008 to August 2008, Leake Street Tunnel, London), an ancient cave painting is being cleaned by a city worker. Banksy is well aware of the destruction of his/her own work, and his/her fans too.⁶

These encoded simulations of material objects and artifacts become an-archives – a concept proposed by Wolfgang Ernst in 2002, and later developed:

Probably two kinds of memories will remain. One will represent a radical rupture: as in Ray Bradbury's *Fahrenheit 451*, a new memory will burn an old one. [...] The alternative is a media culture dealing with the virtual anarchive of multimedia in a way beyond the conservative desire of reducing it to classificatory order again. Data trash is, positively, the future ground for media-anarchaeological excavations. (ERNST, 2013: 140).

5. Some of Marclay's works are available for preview at the Fraenkel Gallery's webpage <<https://fraenkelgallery.com/artists/christian-marclay>>. Among many other publications with pictures of his works, refer to *Christian Marclay*, organized by Russell Ferguson (Los Angeles: UCLA Hammer Museum, 2003).

6. Just as a curiosity, there's even a Wikipedia page devoted to 'Works by Banksy that have been damaged or destroyed' (https://en.wikipedia.org/wiki/Works_by_Banksy_that_have_been_damaged_or_destroyed), divided in three parts: 1) Removed from their original locations; 2) Concealed or defaced; and 3) Demolished.

As data-trash, longing for excavation(s), they mis-represent “total archives”, and they are *unarchived*, *anarchived*, in the process. They also point to the absence of the archive, and the archiving of absence.

Radical Archives, an on-line companion to a 2014 conference that took place at NYU, organized by Mariam Ghani and Chitra Ganesh, understands radical archiving as a radical practice:

[...] archives of radical politics and practices; archives that are radical in form or function; moments or contexts in which archiving in itself becomes a radical act; and considerations of how archives can be active in the present, as well as documents of the past and scripts for the future.⁷

Radical archives can also be understood as radial archives: in centrifugal movements, expanding the life of the archive along and beyond its circumference, opening new possibilities of meaning. In that sense, the above-mentioned works are also impermanent archives: none of them can actually be played, read, or heard. They are deformed, changed, absent. They remain “beyond the conservative desire of reducing it to classificatory order” (ERNST, 2013: 140). They remain in flux, they constitute performances of archival materials. They are “radical in their form and function”.

Of course, encyclopedias, atlases, and maps also provide early accounts of the modernist thrust for the total archive. Strategies of totalizing approaches can be found in the *idea* and history of the Encyclopedia, the dictionary of totalities, the open combinatorics of knowledge. As Olga Pombo states, the Greek etymology is accurate: *eu-kuklios paideia*, the perfect (*eu*) circle (*kuklios*) of knowledge and education (*paideia*), enclosing the cyclic nature of *all* knowledge. However, as Olga Pombo argues, contrary to the dictionary, which is a self-founded instrument of codification, encyclopedias are open semantic devices (2006), referring “to an immensely vast and undulating horizon [...] – a multidimensional network of discrete elements that can be connected, articulated, and approached by following multiple relationships [...], in constant mutation” (POMBO, 2006: 183-184; my translation).

This discontinuous and combinatorial nature of the encyclopedia entails and motivates reading paths, similarly to Aby Warburg’s *Mnemosyne Atlas*, begun in 1924 and left unfinished, an attempt at mapping the “afterlife of antiquity”, that is, how images form and re-emerge.

Walter Benjamin’s ideas on collecting, rather than collections, in “Unpacking my Library”, reverberate the unordered nature of the collection, as opposed to its classification: “For what else is this collection but a disorder to which habit has accommodated itself to such an extent that it can appear as order? [...] And indeed, if there is a counterpart to the confusion of a library, it is the order of its catalogue” (1988: 60).

7. www.radicalarchives.net/ra/index.html.

Either way, it seems that we are now archivists in our own account, as in *The Archivist Manifesto*: “We are archivists, since we have to be. We don’t have choice. This decision is already made, or determined by the contemporary technological condition” (HUI, 2013). And from encyclopedias to maps, the technological condition that we inhabit is patently framed by *Wikipedia*, *Google Maps*, etc., examples that point to the urge to contain and describe whole territories, both of knowledge and space.

The Digital

As dreamed by Alan Turing (the “Universal Machine”) and Vannevar Bush (the “MEMEX, or Memory Indexer”), our digital condition is fostered by a new mode of representing data: numerically, and symbolically, instead of materially. Digitalization is, of course, the representation of continuous media in a sequence of discrete values. Digitalization regards (and regulates) information as universal, i. e., independent of reading display device, in bit-streams – binary sequences, sequences of bits – which are used as basic units of information, with only one of two values.

The “digital” comes with surprising news for those of us who are fond of the avant-gardes, from Dada to Fluxus: defined as impermanent, fluid, open, variable, indeterminate, performative. In a related way, Ernst has defined cyberspace as “not primarily about memory as cultural record but rather about a performative form of memory as communication”, observing a transition from a fixed order into “permanent reconfigurability”, or “permanent state of latency” (2013: 99).

And Randy Bass wrote that we are witnessing “a shift in representation from a structure of center and margins to one of contingent centers, infinitely decenterable and recenterable” (BASS, 1999: 660), further providing a definition of networks as “expansive, dispersed, decentralized, [and] undisciplined” (1999: 662), that is, the opposite of a formal account of the *Archive*.

Jan Baetens and Jan Van Looy, discussing the digitalization of cultural heritages and the role of interpretation in their preservation, argue that the web’s “primary function is not that of conservation (of inscriptions, archiving, possibly reproducing and diffusing), but one of transformation (of computer data and representation, mixed media)” (BAETENS & VAN LOOY, 2007).

Aware of these transpositions, N. Katherine Hayles argued for a new form of textuality, explaining that electronic literature, one of its instantiations, is “dispersed rather than unitary, processual rather than object-like” (2003: 276).

These discussions compel us to reflect on the archive, its limitations and possibilities. Wolfgang Ernst, as the keynote speaker of the workshop *The Anarchival Impulse in the Uses of the Image in Contemporary Art* (MACBA, Barcelona), debating the idea of the “Insistence of the Archive”, has said: “When being looked at in a media-archaeological way, that is:

close to the technology itself, there is nothing ‘anarchic’ in the digital world; every action here is based on precise algorithms. *The archive must thus be redefined in techno-mathematical terms*” (2012: 5; my italics).

How can we read Boltanski’s *unrevealed* archives, Marclay’s silenced photographs and tapes, in light of data servers and the cloud?

The Corpus: Experimental literature

Experimental and electronic literature are also characterized by multimodality and interactivity, providing a challenging study case for the possibilities and limitations of digital archives, setting critical questions to archival and preservation issues.

Experimental poetry is interdisciplinary, integrating techniques and technologies, promoting the dissolution of boundaries between visual and literary genres, between art and technology, enacting complex intersemiotic processes that invoke various sign systems. The “nomadic” vocation of these practices also include a “performative and participative dimension” (BARROSO, 2012).

Experimental forms of literature are based on process, machine appropriation, and montage. They constitute, as Manuel Portela has been arguing, a “critique of poetical codes” (2014a: 240) which can be extended through electronic tools, integrating self-awareness of mediation.

Let’s consider some of the affiliations between experimental and electronic literature, in order to better understand and recover the discontinuous textual relations across histories and forms, and from physical archive to digital archives.

Jorge Luis Borges, in his “La biblioteca de Babel” [The Library of Babel] (in *El jardín de senderos que se bifurcan* [The Garden of the Forrking Paths], 1941), imagines and conceives the infinite library, an idea that was later expanded to the infinite book, one made of sand (*El libro de arena*, 1975). One contains the other, and vice-versa. “The Library of Babel” is an interesting example for our discussion because Borges conceives and elaborates a recursive labyrinth for the unique (and therefore total) universal library from where all books stem. It’s almost a question of mathematics: each book is composed of 410 pages, each page has 40 lines, each line has 80 characters.

There are many possible ways of developing this idea with computer machines and programming languages, an aspect that articulates the symbolic connection between the digital and the expressive forms of experimental literature. As Lev Manovich (2003) has put it, after all, “New Media is the Encoding of Modernist Avant-garde”.⁸ Among many possible examples of re-readings and interpretations

8. Interestingly, the title of the article by Manovich where this statement was first formulated is ‘New Media from *Borges* to HTML’... (my italics).

of the idea behind “The Library of Babel”, I will briefly refer to Nick Montfort’s “Una página de Babel” (2015),⁹ Jeremiah Johnson’s “BABEL”,¹⁰ Jonathan Basile’s “Library of Babel”,¹¹ and André Sier’s “410” (2010).¹²

In Montfort’s piece, a continuous and fast generation of glyphs creates the illusion of infinite word combination and creation. Using only one variable (*var unigram*) for the distribution of glyphs in Borges’s story, and four functions (*glyph*; *page*; *render*; *go*), Montfort reduces the labyrinth to a simple programming structure. Interested as he is in minimal poetry and minimal codings (his *ppg256* being a series of Perl poetry generators in 256 characters only...), Montfort creates a form of visual digital poetry that seems to address the permanent reconfigurability and performative nature of all literature. Tagging the piece, in his blog,¹³ under conceptualism, concrete, and constraint, among others, Montfort describes this non-interactive piece, sketched in Python and later developed in JavaScript, as “a Web page containing a rapidly-moving concrete poem” (2015), admitting that it does not try to “closely and literally implement the library that Borges described”.

In Johnson’s work, the pages appear letter by letter, at different paces, constructing the square of text apt to host the 80 characters per line, 40 lines per page format. This generative piece constructs different books anew, every time it is started. Strictly following Borges’ suggestion, in this case “25 characters in alphabet - including commas, periods, and spaces; 80 characters per line; 40 lines per page; 410 pages in a book”, Johnson’s webpage invokes *jquery-1.10.2.min.js*, as well as his javascript code, *generator.js*. This “generator” includes one function (*writePage*) that uses several variables (*alphabet*; *iv*; *pNum*; *bookpage*). If in Montfort’s case, the number of “pages” became indeterminate, variable; with Johnson’s work the “*pNum == 410*” is clearly set.

Basile’s version provides a more complete paratextual amount of information. The menu of the “home” page allows readers to interact with the piece in many different ways. For example, “Browse” allows readers to dynamically “create” images/representations of the library, which in its turn provide links to access the books. “Search” allows readers to look for possible matches of words or combinations of numbers inside the generated books. “Random” creates an aleatory navigation. And “Image Archives” is an application of the principle to the visual world.

In André Sier’s performance, the sound readings of the original text by Borges moves “towards a single tone”, at the same time that abstract visual fragments, common in Sier’s other works, “scattered in space, navigable through sound and

9. <http://nickm.com/poems/babel.html>

10. <http://www.b-a-b-e-l.net/>.

11. <https://libraryofbabel.info/>.

12. <http://po-ex.net/taxonomia/materialidades/performativas/andre-sier-410>.

13. <http://nickm.com/post/2015/08/paging-babel/>.

the interaction of camera, searching for the book of books, building a meta-virtual space, walking in the library”. The navigational metaphor, typical of video-game narratives, embraces and re-creates the idea of multiple and infinite spaces.

Untold archaeologies between electronic literature and other expressive and material practices seem to surface in these works, embracing Borges’ fictionalized concepts and ideas. Other examples of affiliations abound, articulating the multiple diachronic and genealogical perspectives about electronic literature, providing room for comparative studies between art and technology.

Mallarmé’s dream of an integral book, containing all possible books, also illustrates this idea. His *Le livre* is a poetic machine, a literary mechanism, one that many have re-created, re-imagined and re-interpreted as text generators. For Eco, the *livre* constitutes the perfect, yet open, mechanism of participation. A “work in movement”, yet the “quintessence of the poet’s production [...] conceived [...] as the work which would constitute not only the goal of his activities but also the end goal of the world” (1989: 12). *Le Livre* is then performative, establishing “a tendency to see every execution of the work of art as divorced from its ultimate definition. Every performance explains the composition but does not exhaust it” (ECO, 1989: 15).

One final example, from Po-ex.net,¹⁴ in which context many re-codings and re-readings of affiliations were created, is *Álea e vazio* (1971),¹⁵ a book of poems by Portuguese poet Ernesto de Melo e Castro, and particularly the poem “Tudo pode ser dito num poema” published in that book, containing a literary algorithm that anticipated electronic literature mechanisms. These texts by Melo e Castro were re-textualized in the eighties by Pedro Barbosa using BASIC,¹⁶ and later re-interpreted in C++ using Sintext.¹⁷ Later, I have created (2014) new versions using my own poemario.js (programmed by Nuno F. Ferreira).¹⁸

Facing a new textual condition, one that is procedural and fluid, common to all experimental forms of literature (perhaps common to all literature...), these *books of sand* help us characterize our new textual condition: one that is varia-

14. *The Digital Archive of Portuguese Experimental Literature*, available at www.po-ex.net, from now on referred to as Po-ex.net, derives its name from PO.EX, an acronym of Poesia.Experimental (Experimental.Poetry) created by E. M. de Melo e Castro. *Poesia Experimental* was the title of a magazine edited by António Aragão and Herberto Helder (no. 1, 1964) and António Aragão, E. M. de Melo e Castro and Herberto Helder (no. 2, 1966).

15. <https://po-ex.net/taxonomia/materialidades/planograficas/e-m-de-melo-castro-alea-e-vazio>.

16. In Barbosa’s book *Máquinas pensantes. Aforismos gerados por computador* (Lisbon: Livros Horizonte, 1988), the process and several examples were published. <http://po-ex.net/taxonomia/trans-textualidades/metatextualidades-autografas/pedro-barbosa-maquinas-pensantes-os-textos>.

17. *Teoria do Homem Sentado* (book and MS-DOS disk), by Pedro Barbosa and Abílio Cavalheiro (Porto: Afrontamento, 1996).

18. <https://po-ex.net/taxonomia/materialidades/digitais/e-m-de-melo-e-castro-alea-e-vazio-re-textualizacoes>.

ble, performative, indeterminate, processual and procedural, programmed to be multiple.

Poets have always tried to identify and formalize literary forms and structures, and frequently these forms became the ground for re-codings in digital media. Regardless of the many different values of these re-readings, they are actually forms of radical archiving. Forms of an-archiving through digital emulation and re-interpretation: re-reading becomes a radical form of archiving and preserving.

The performative and metamorphic dimension of experimental and electronic literature challenges our archival practices in ways that draw attention to the performative nature of digital archiving itself. Archives are about preservation and inscription, organization and relation. In a context characterized by increasing fragmentation and impermanence, re-reading and emulating become important strategies for enacting and curating the archive.

Digital archives

Digital archives are not constrained by physical location: they allow easy and wide access to data. Digital archives, however, need to ensure long-term preservation of digital data, at least if they want to remain accessible for use in the future.

Deegan and Tanner (2004) indicate their many exciting possibilities: faster access, the (re)publishing of rare and inaccessible materials, clustering of disperse collections, integration of pedagogical materials, analysis and comparison. Digital archives are indeed versatile, multimodal, open, procedural and fluid, and their activation, through interoperability and appropriation, has been one of my motivations for the development of Po-ex.net.

Digital archives can be performed, and they are performative themselves: networks of relationships in constant metamorphosis and renegotiation, as Osthoff has written (2009). Embodying these performative and reconfigurable possibilities, they indicate the replacement of the “archival order” by the dynamic nature of the “archival field”, as Ernst (2013: 99) has argued, and instead of being infatuated with the “static memory” of the traditional archive, we should move towards “an economy of circulation: permanent transformations and updating” (99).

Is this a new hope for the representation and preservation of cultural memory? Of electronic and experimental literature? Hui opposes this idea, identifying a certain number of “inabilities” that we should be aware of: “web services becomes more and more distributed [...]; cloud computing is moving things from your hard-disk to someone else’s server; indexation tools and personal libraries softwares are still underdeveloped, etc.” (HUI, 2013, on-line, s.p.; my italics).

Likewise, Gielen and Laermans provide a dystopic view, testifying that the language about new media is involved in a “rather naive technological determinism and is written in the flashy language of optimism”. These authors further identify a “hidden performativity of computer programs, which make information pro-

duction simultaneously possible and impossible, as the archive of every digital archive". This new meta-archive "re-mediate the abstract numerical information into readable information or meaningful signs, [...] crucial for digital reality, but remains invisible as such" (GIELEN & LAERMANS).

Digital Archives are complex reading environments, as well as powerful tools for research in practice, converging remediation, performance, exhibition and education. And what digital archives for/of experimental literature have we built? The few that exist should be outlined.

UBU is a classic.¹⁹ Disorganized q.b., without any metadata, it resists, against the grain. Known as *UbuWeb*, where "[a]ll avant-garde. All the time" can be found, UbuWeb is a registered 501(c)(3) Not-for-profit organization. The only meta of its webpage: <META NAME='GOOGLEBOT' CONTENT='NOINDEX, NOFOLLOW'>. And why should it be organized? In "Archiving UBU",²⁰ a blog maintained by Margaret Smith, she affirms that "UbuWeb was essentially founded in opposition to the limitations and norms of institutions", and therefore is "radically unlike any institutionally created digital collection" (online). Enzo Minarelli's *3ViTre - Archivio di Polipoesia* is an important and pioneering example of archiving experimental poetics on the web.²¹ Strictly HTML, there's no metadata, no structured database, no filters. *PennSound*, by the Center for Programs in Contemporary Writing,²² a partner of *UBU*, as well as Poció's *Poesia experimental catalana (1959-2004)*,²³ *Hermeneia*'s website,²⁴ the *Bonotto Collection*, an astounding digital collection of Fluxus, as well as Concrete, Visual and Sound Poetry by the Fondazione Bonotto,²⁵ all of these examples articulate the same refusal of organization, metadata structuring following conventions, etc. Of course, this does not mean that they are failures... Quite the opposite, considering the previously quoted manifestos and preoccupations. But they are not connected, they are not interoperative.

ELMCIP's *Knowledge Base*²⁶ is probably the first database to raise the standards of database structuring, with their Drupal database, which is folksonomy-oriented, created and maintained by the community itself. It's the largest single database of experimental and electronic literature,²⁷ in connection to the *ELD - Electronic Literature Database*, of the ELO-Electronic Literature Organization,²⁸

19. www.ubu.com.

20. <https://archivingubu.wordpress.com/structure/>.

21. www.3vitre.it/.

22. <http://writing.upenn.edu/pennsound/>.

23. <http://pocio.mydocumenta.com/>.

24. www.hermeneia.net/.

25. www.fondazionebonotto.org/.

26. <https://elmcip.net/knowledgebase>.

27. In October 2016, ELMCIP (Electronic Literature as a Model of Creativity and Innovation in Practice) listed 2759 records of Creative Works, 3097 records of Critical Writing, created by 2949 Authors.

28. <http://directory.eliterature.org/>.

which is older, and now has adapted to Web 2.0, and NT2's *Canadian Directory of Electronic Literatures*.²⁹

Po-ex.net,³⁰ created in 2005 and updated in 2014, stands somewhere in-between the previous examples. Influenced and paying tribute to *UBU*, *3ViTre*, *PennSound*, etc., it is nonetheless structured in the form of a complex network of multiple files, following recommendations by *ELD* and *ELMCIP*, and further contributing to the dialogue between databases that led to the *CELL-Consortium on Electronic Literature*. In that sense, Po-ex.net constitutes a new material environment to investigate the different dimensions of digital curation.³¹

With the creation of Po-ex.net, the unavailability of Portuguese pioneering works that established current genres of innovative and digital literature was addressed, making available the diverse production of Portuguese from concretism to visual and sound poetry, from performance to digital poetry. Regarding the latter, the project has successfully emulated pioneering digital experiments created with currently obsolete programming languages, making them accessible, tracing their origins, representing their historical context.

However, in curating the Digital Archive, we have felt the need to address the question of integration of databases in an international context, and that is why Po-ex.net has subscribed to the Electronic Literature Organization's *CELL* initiative,³² aimed at developing partnerships for the establishment of cooperative communication among databases devoted to electronic literature worldwide.

Forms & strategies: curation; interoperability; appropriation

Taxonomies and organization

In the context of the project(s) that led to Po-ex.net,³³ preliminary reflections about organization of contents were very important. With the significant counseling of Manuel Portela and my own coordination, we have started by delineating the possible/desirable meta-structure for our Digital Archive, and we have decided, from its beginning, that it should perform three different functions: textual representation, contextual simulation, and interpretive interaction - as well as how to encourage reflexive feedbacks between these (PORTELA, 2014b).

29. <http://nt2.uqam.ca/>.

30. <http://www.po-ex.net>.

31. A good description of Po-ex.net ('The PO.EX Digital Archive of Portuguese Experimental Literature: A Review') was published in the ELD website by Álvaro Seiça, in the Winter 2013-14 term, as part of the author's doctoral program at the University of Bergen, Norway. <http://directory.elit erature.org/node/3766>.

32. <http://eliterature.org/cell/>.

33. <http://po-ex.net/sobre-o-proyecto>.

To introduce the nature and potentiality of digital archives, I still believe that this structuring remains operational, also reinforced by the fact that it was used as part of the rationale of the *CELL* itself.³⁴ *Textual representation* refers to remediations - digital facsimiles and text transcriptions - that digital archives contain, and how they need to be accompanied by data about the original documents, as well as information about the digital surrogates themselves. Textual representation is not simply a process of descriptions, but rather implies knowledge about processes, technical standards, and formats, in order to guarantee integration and interoperability. *Contextual simulation*, on the other hand, implies a genetic dimension that recovers the history of the production of the archive, and a social dimension, describing the history of the reception of the works. These dimensions provide opportunities for a network of intertextual associations among items in the database. Finally, *interpretive interaction* points to how critical environments such as these can provide and generate new interpretations, new relations (PORTELA, 2014b; TORRES, PORTELA, SEQUEIRA, 2014).

Following these premises, in our proposed methodological rationale and taxonomy (TORRES, PORTELA, SEQUEIRA, 2014), we have pointed to several different forms of interpretative interactions which were made possible by textual representation and contextual simulation: interfacing the database; curating virtual exhibits; and appropriating and remixing the archive. I will now briefly describe and contextualize some of these activities.

Curation

Digital archives, as we have tried to argue, are not closed entities (ERNST, 2013) and shall be kept and maintained. They require digital curation: sustainability, appraisal, selection, acquisition, growth, development, publishing, management, and control. As a result, they allow and promote us to: use, combine, re-combine, inter-operate, process, annotate, discuss, review, link, and relate.

The obsolescence of programming languages and technological conventions is a problem for the sustainability of digital archives, as it is to electronic literature itself, but also an opportunity to revisit the represented artifacts as well. Preservation and archiving becomes critical in terms of long-term access to artifacts, codes and forms that are dependent upon the constant changes in hardware and software conventions.

Engaged in providing conditions and guidelines for long-term readability of works whose access may become complicated in the future, the ELO called out for an integrated vision involving multidisciplinary teams:

34. For more information, read Joseph Tabbi's *CELL Manifesto* (<http://cellproject.net/manifesto>), specifically its part vi, "The Structure of a Digital Literary Archive".

The new possibilities of electronic literature come from its being as much software as document, as much machine as text. For electronic literature to be readable, its mechanisms must continue to operate or must be replaced, since changes in the context of computing will complicate access to important works of literature on the computer (MONFORT & WARDRIP-FRUIIN, 2004).

Flanders and Muñoz (2014) indicate that digital curation shifts the emphasis from capturing and preserving the data itself, into the need to include information about methods and processes, guaranteeing “subsequent interpretation and reuse”, as well as functionality and interoperability with other databases and with web standards.

Curation also implies the activation of the Digital Archive, transferring it to new spaces and encouraging its appropriation and integration in different social and cultural practices.

Exhibitions of the Digital Archive, in museums as in classrooms, can actually provide for vocal and digital (re)interpretations of its contents, allowing for reflection on the complex coding and nature of their materialities.

In the case of Po-ex.net, we have created, so far, the following exhibits, re-using and re-articulating the contents of the archive: “Portugal, Camões, Comunidades”³⁵ [Portugal, Camões, Communities]; “Revolução, Intervenção, Liberdade”³⁶ [Revolution, Intervention, Freedom]; and “Metamorfose, Diálogo, Transformação”³⁷ [Metamorphosis, Dialogue, Transformation]. This creation of conceptual and thematic exhibits, based on database narrative, embedding interconnected resources, contributes to the semantic and ontological continuity of the collection itself.

Other activities of aggregation and celebration of events related to PO.EX allowed us to revisit the database: “1965 - 2015: 50 anos de Poesia experimental em Portugal”, for instance, implied the digitalization, transcription, and organization of materials related to *Concerto e audição pictórica* (the first happening in Portugal),³⁸ *Visopoemas* (a public exhibit with poems-objects),³⁹ and a supplement of the *Jornal do Fundão* dedicated to Portuguese Experimental Poetry.⁴⁰

Finally, for this type of *activation of the archive*, we have created a special dossier about José-Alberto Marques’ *Homeóstatos*,⁴¹ paying honor to his ten com-

35. <http://po-ex.net/exposicoes/visitas-guiadas/portugal-camoes-comunidades>.

36. <http://po-ex.net/exposicoes/visitas-guiadas/revolucao-intervencao-liberdade-poesia-experimental>.

37. <http://po-ex.net/exposicoes/visitas-guiadas/metamorfose-dialogo-transformacao-poesia-experimental>.

38. <http://po-ex.net/taxonomia/materialidades/performativas/concerto-e-audicao-pictorica>.

39. <http://po-ex.net/exposicoes/exposicoes-colectivas/visopoemas>.

40. <http://po-ex.net/taxonomia/materialidades/planograficas/poesia-experimental-suplemento-do-jornal-do-fundao>.

41. <http://po-ex.net/taxonomia/transtextualidades/metatextualidades-alografas/homeostatos-de-jose-alberto-marques-1965-2015-uma-homenagem-pelo-arquivo-digital-da-po-ex>.

plex visual poems, dated from 1965, which signal the importance of constellation, combinatorics and fragmentation in experimental poetry. We have invited researchers, artists, and the author himself to revisit these *homeóstatos*, available in Po-ex.net, and received and published, in an interconnected way, eight texts with reflections, as well as six re-creations/re-readings.

Interoperability

Interoperability subsidizes communication, data sharing, collaboration. Po-ex.net wants to be in line with similar databases, but interoperability comes with necessary changes. There is the need to expand and improve the archive, ensuring a careful description of its works, establishing links and cross-referencing, sharing a set of metadata with other databases.

The Consortium on Electronic Literature (CELL) is an open access that offers aggregated access to several literary databases and archives. Launched in 2015, CELL included ten research groups and is designed to integrate many more⁴² sharing a common set of meta-elements derived from the adopted taxonomies, “designed to be an online content organization system that acts as an underlayer of semantization meant to qualify data”. These include, so far: Publication Type(s) – the means and channels by which a work is made public; Procedural Modality(ies) – the action that occurs between the work and the user; Mechanism(s) – devices that provide input or output to a computer; and Format(s) – the material and intermedial nature of electronic literature.

As we have stated in the document providing definitions of the taxonomies:

[...] the categories used in CELL emerged from the works of electronic literature themselves: since the late 1990s, the partners of the CELL project have tagged content using terms to describe an evolving object – the work of electronic literature. The goal is to reorganize the original tagging into more neutral and descriptive categories that could be used throughout the field.

All the projects regrouped under the CELL project address electronic literature works from distinctive points of view. Each built a classification system for the works in their database through taxonomies that are specific to their research orientation. The objective of the CELL project is to reunite all those orientations to come up with a general and common classification that could reflect the current state of research in the field. These taxonomies are elaborated from an inductive approach based on the previous categorizations.⁴³

42. <http://cellproject.net/about>.

43. <http://CELLproject.net/taxonomies-definition>.

Appropriation

A well-structured database is also there, apt to be translated into enhanced and adaptable new interfaces. Remixing its contents, as well as the fundamental techniques and methods they imply, stimulates an understanding of the archive, and its remediations, as variable, adaptable, and changeable.

Since curating is a dynamic activity, continual reassessment and re-interpretation of assets is crucial.

Frequently dealing with great amounts of images, sounds, videos, texts and scripts, these contents can be reprocessed, re-articulated, becoming new media for artistic and creative remixing. Giving artists the ability to share, use, or build upon works seems to be even more important in the case of experimental and electronic poetry, because many of the works are themselves derivative, i.e., hypertextual: appropriations, intertextual parodies, collages, found texts, etc.

Portela discusses digital re-readings of experimental poems contained in Po-ex.net as digital recreations that “redefine the source texts by means of specific programming codes” (PORTELA, 2014a). These recreations reveal the complex linguistic and graphical coding of the printed page itself. For the author, digital re-readings and recordings of experimental poems highlight the importance of the materialities of experimental writing, discarding “the false dichotomy between the linearity of one medium versus the multi-linearity of the other” (PORTELA, 2014a).

Experimental poetry has embodied a “critique of poetical codes”, one that can be extended by electronic tools, as long as they integrate this same self-awareness in the modes of mediation of literature.

From January to May 2015, Po-ex.net was presented, live-remixed and performed by Retroescavadora,⁴⁴ with special guests André Sier and Bruno Ministro. Events took place at *Livraria Gato Vadio* [Stray Cat Bookstore], in Porto, Portugal.

The title clearly identified our intentions: A LIVING ARCHIVE IS AN ANARCHIVE!⁴⁵ The five sessions were organized in the following topics: *Text-Image*, including the Labyrinths, Annagrams, Visual Poetry, Electrography and Copy Art of the database; *Text-Text*, including examples of Spatialization, Constellation, and Concrete Poetry; *Text-Sound*, for appropriation of Vocal Processes and Sound Poetry in the archive; *Text-Space*, re-inscribing in space the Installations, Performances and Spatial Poetry virtually available; and *Text-Code*, showing and recombining Combinatory, Interactive, and Electronic Literature examples.

Other parallel activities happened.

44. Retroescavadora is an artistic intervention collective from Porto formed by Ana Carvalho, Filipe Valpereiro, Luís Aly, Luís Grifu, Nuno Ferreira, Nuno M Cardoso, and Rui Torres.

45. <http://po-ex.net/exposicoes/arquivo-vivo-e-anarquivo>.

First, artist Alex Bodea visually described the Text-Sound sessions and operations, creating thirty-one visual notes that were later digitized and photographed to be included in the archive itself.⁴⁶

Second, programmer Nuno Ferreira created scripts to transform and “destroy” the database itself: Botabaixo, FadeMe, and FuzzyMe manipulate several aspects of the style of the archive, distorting, inverting, and eventually deleting the pages of Po-ex.net.⁴⁷

According to Manuel Portela,

These procedures of recombination and montage, algorithmically formalized through specific scripts, highlight the multimedia aesthetics of current programmable media and how various operations of experimental artistic practices have become software tools used today across the arts of language, image and sound. The recoding of analog archive in the form of digital code allows to describe the Digital Archive of PO-EX not only as of knowledge about experimental poetics, but as a space of invention of a poetics of the archive, through which writing, image and code can continue to be experimentally investigated (PORTELA, 2016; my translation).

Conclusion

The intrinsic complexity of multimodal databases is a challenge that can stimulate the translation of their data into enhanced, interoperable and appropriated interfaces. Po-ex.net, the Digital Archive of Portuguese Experimental Literature, beyond hosting and preserving its contents, further uses them as a framework for new research. With this article, I have tried to describe some of the strategies for curating digital archives that we have adopted, hoping that they can become examples for other databases. Through appropriation and remixing, artistic and creative re-interpretations, but also new forms of understanding the experimental nature of electronic literature and digital archives, may be achieved.

46. <http://po-ex.net/exposicoes/arquivo-vivo-e-anarquivo/alex-bodea-notas-visuais-acerca-de-texto-som-poesia-sonora-gato-vadio>.

47. <http://po-ex.net/exposicoes/arquivo-vivo-e-anarquivo/nuno-ferreira-botabaixo-fademe-fuzyme-scripts-para-manipulacao-do-po-ex-net?showall=1&limitstart=>.