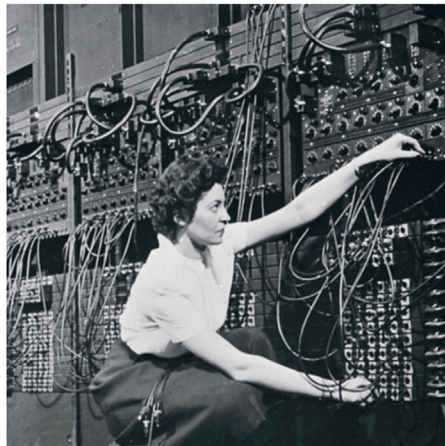


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**Between atoms and bits: combining
online and onsite research to
broaden analytical insights on
humanities**

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Between atoms and bits: combining online and onsite research to broaden analytical insights on humanities

This essay discusses how research in Humanities can take advantage of inquiring resources available in digital and physical archives since their media agency works in a complementary dynamic, bringing new analytical insights about the studied object. The considerations brought about in this brief text were made during my ongoing research based on the bookwork of the scholar and artist Johanna Drucker, which figures in the realm of Book Studies. However, the experience of analyzing the target objects first through a digital archive and then onsite, in Special Collections, gave me a better sense of how combining these different types of visualization and manipulation enriches the outcomes of research within the Humanities realm. Finally, pondering the coexistence and accessibility of both instances reinforces the contribution of digitalization for humanist scholarship and endorse the physical scrutiny of primary sources as a core analytical requirement to quality in interpretative research.

Keywords: Online archive, Onsite research, Primary source, Hybrid research model.

Entre átomos e bits: combinação de investigação em linha e presencial para ampliar contributos analíticos nas Humanidades

O presente ensaio expõe como a pesquisa em Humanidades se pode aproveitar de recursos de investigação disponíveis em arquivos físicos e digitais, dado que suas conjunturas mediais funcionam em uma dinâmica complementar que traz novas perspectivas analíticas sobre o objeto de estudo. As considerações trazidas neste breve texto foram feitas ao longo de minha investigação em curso que se baseia na obra bibliográfica da teórica e artista Johanna Drucker, que se encontra no domínio dos Estudos do Livro. Entretanto, a experiência de analisar os objetos em foco primeiro através do arquivo digital e apenas posteriormente em pessoa, em coleções especiais, permitiu-me ter uma melhor noção de como a combinação desses diferentes tipos de visualização e manipulação enriquece os resultados da investigação dentro do campo das Humanidades. Finalmente, ponderar sobre a coexistência e a acessibilidade das duas instâncias reforça a contribuição da digitalização na investigação humanística e subscrevem o escrutínio físico das fontes primárias como um requisito analítico essencial para a qualidade na investigação interpretativa.

Palavras-chave: Arquivo digital, Investigação in loco, Fonte primária, Modelo de investigação híbrida.

Between atoms and bits: combining online and onsite research to broaden analytical insights on humanities

Patrícia Esteves Reina*

This essay is divided into three moments. The first one compares the experience of the two different instances of research, beginning exclusively with the digital analysis and then changing to the physical examination of the documents¹. The second moment discusses how both experiences collaborated for an amplified understanding of the studied objects, pointing out some practical examples with figures. The last moment of this essay deliberates about how fundamental it is to encourage and support humanist scholarship that expresses such dual-analysis nature. It aims to advocate discussions and initiatives that consider humanist studies' nature for (a) digitalization projects that

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¹ The word 'document' sometimes interweaves with the use of the terms 'book' and 'text' in this essay. It occurs because bibliographical studies consider the book in its multiple circumstances of production, such as social, economic, and subjective; not only as an artefact that stands by itself. See Johanna Drucker, "Distributed and Conditional Documents: Conceptualizing Bibliographical Alterities", *Matlit Revista do Programa de Doutoramento em Materialidades da Literatura* 2, n.º 1 (2014): 11–29. https://impactum-journals.uc.pt/matlit/article/view/2182-8830_2-1_1; and Shelley Jackson, "I Hold It Toward You: A Show of Hands", in *The Bloomsbury Handbook of Electronic Literature*, ed. Joseph Tabbi (London: Bloomsbury Academic, 2017), 13–38, <http://dx.doi.org/10.5040/9781474230285.ch-001>.

make collections more accessible within the virtual sphere and for (b) raising awareness about the geographical displacement demands for the analysis of primary sources in humanist research.

In my case, the very first approach to my objects of the study was solely virtual and remained virtual in the first three years of research. The initial contact with the documents was in the context of a seminar, displayed through *Artists' Books Online* (n.d). This “online repository of facsimiles, metadata, and criticism,” as it defines itself, stands out as an example of a Digital Humanities project which provides more than high-resolution images of the titles it displays, as it supplies any sort of reader (from specialists to curious) with detailed information about the context of production, every sort of influences, book technical features, and more². Artists' books are challenging to find, mainly present in private collections or libraries' special collections due to their limited run and manual approach to bookmaking. The existence of such a digital source was indispensable in the development of my research prospectus. It enabled me to carefully select the works that make up my current *corpus* of analysis and rehearse the methodology approach for the research along with the proposal, making a brief analysis of one of the nineteen elected titles. My experience enlightens the relevance of digitalization for humanist scholarship purposes, as the virtual open access to rare documents and/or special collections disclosures research possibilities which are geographically conditioned at first glance.

In addition, *Artists' Books Online* made it possible to begin the analysis of the books in a virtual context, which allowed the work to advance —particularly with the mobility constraints imposed by the Covid-19 pandemic. However, as the analysis progressed and became more in-depth, many of the physical features that images cannot indicate or suggest through visual means became essential for the research. Sometimes, the technical constraints of the scans can even mislead the

² As a Digital Humanities project concerned with transparency in data handling policies and procedures, this repository holds technical information about how codification of the information presented on the site is made. For this matter, see the section “about the project” in http://artistsbooksonline.org/ab_current.html.

interpretation of the document in the digital environment, for instance, merging a paper cut boundary into a single surface with the following sheet of paper or deceiving about the level of opacity of the paper. In this sense, the need to pursue a way to continue my analysis through onsite research was increasingly conspicuous. At this point, I could assume the complementary character of analyzing digital surrogates and physical copies of the same documents, but I could not specify the dynamic of such complementarity as a realized further.

Before moving on to the second moment of this exposition, it is worth to recall Matthew Kirschenbaum's distinction between *forensic materiality* and *formal materiality*³, which may be useful to a clear understanding and better describe the complementary dynamic between physical and digital copies of the same document as intended here. Kirschenbaum's proposed those terms to dispel premature thoughts about the immateriality of digital media, although this systematization succeeds in analyzing material features in a broaden sense. The *forensic materiality* is related to physical traces which comprise "the principle of individualization (basic to modern forensic science and criminalistics), the idea that no two things in the physical world are ever exactly alike", while the formal materiality is used to "capture the multiple behaviors and states" as well as "the relational attitudes" of materialized objects —or as Drucker well summarized, "the codes and structures of human expression"⁴ (2013 : 4). Later, Drucker uses Kirschenbaum's basic dimensions of materiality to think about what she calls *performative materiality*, which avoid any ontological definition to these dimensions, suggesting the perception of material dimensions within the circumstances: "What something is has to be understood in terms of what it does." Taking into consideration Kirschenbaum's distinctions updated by Drucker, on this matter, may clarify the nature of the contribution in the following examples.

3 Matthew Kirschenbaum, *Mechanisms: new media and the forensic imagination* (Cambridge: MIT Press, 2008)

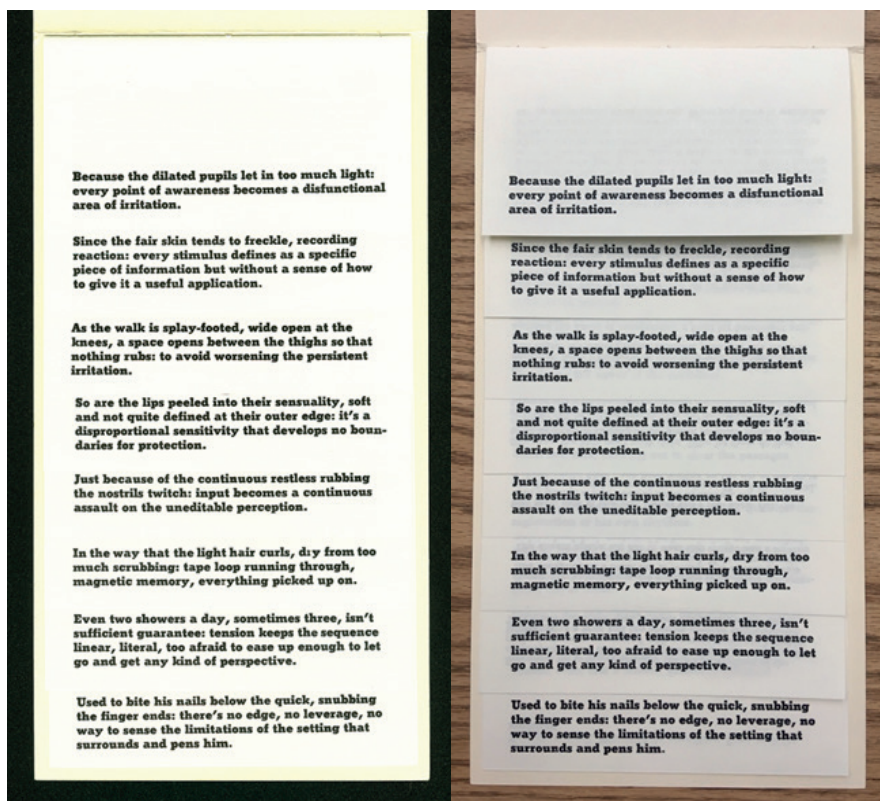
4 See Johanna Drucker, «Performative Materiality and Theoretical Approaches to Interface», *Digital Humanities Quarterly* 7, n.º 1 (2013): 4, <http://www.digitalhumanities.org/dhq/vol/7/1/000143/000143.html>.

The second part of this essay discusses how the experience of the physical analysis of the document emphasized the value of the hybrid approach to humanist research. My personal experience concerning onsite analysis took place at the Poetry Collection, a well-known special collection that is part of the University at Buffalo Libraries, in the U.S. This library has a significant number of first editions titles in poetry and many other rarities in the Literary scene—including the famous James Joyce Collection. The collection holds fifteen out of the nineteen titles that make up my *corpus* and other titles by the same author. The experience of handling and manipulating a major part of the documents I have previously (and primarily) seen digitally had a critical impact on my research, boosting annotations about comparative reading between the two material instances—virtual and physical. Some of the titles under consideration have a closed format bigger than any screen interface used to see them, while unusual page workings obtained through unique binding techniques remained almost invisible until the first haptic experience. In contrast, some of the text features clearly noticeable in on-screen readings were difficult to notice when turning the pages and seeing them as opening instead of scrolling thumbnails. The further examples better illustrate how each material instance contributes to perceiving the document not only through its semantic features but as the result of its own circumstances involved in the production, concerning the appeal of its historicity inscribed in its material features—either forensic, formal or performative.

Three comparisons are used to depict specifically what was generically exposed at the first part of this essay. The first one is a striking example of how inquiring through online surrogates does not rescind the demand for onsite research. Moreover, it shows that analyzing documents onsite is beyond the forensic nature of the inquiry, including research situations directly related to the formal aspects of materiality, such as the binding structures, for instance. As Figure 1 shows, the title *'S crap 'S ample* (1980) has a unique page format whose appearance is undermined using scanning. In the case of this specific book, the material analysis of the document is misled by the visual effect, that

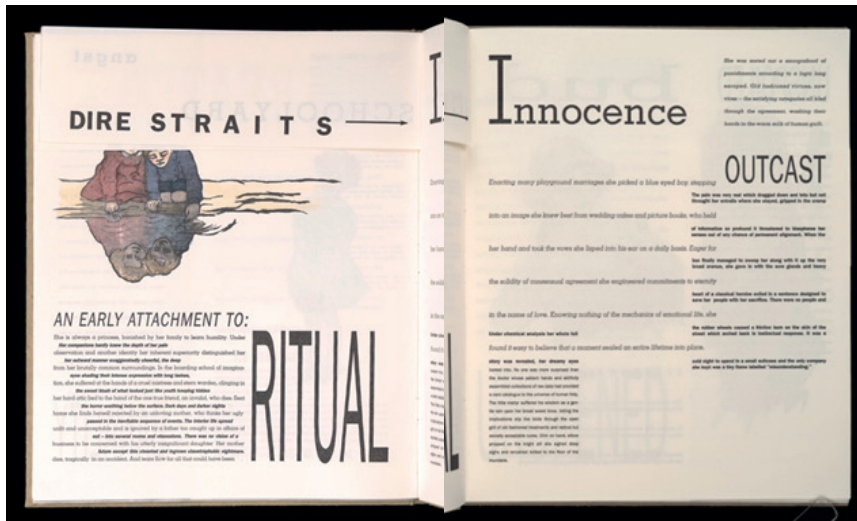
is, the loss or weakening of a conspicuous feature when handling the copy. *Narratology* (1994), another book in which some page also cuts partially overlap the text, was digitalized with the assistance of a document camera instead of a flatbed scanner, as we can see in Figure 2, providing a better result in showing the page dynamics.

Figure 1



Both images are the same opening in *'S' crap 'S ample* (1980). The image on the left was retrieved from *Artists' Books Online* (n.d), and the right one was made with a personal camera while analyzing the book onsite at the University at Buffalo (UB). One can notice how the choice of the flatbed scan method made the separation between the pages invisible.

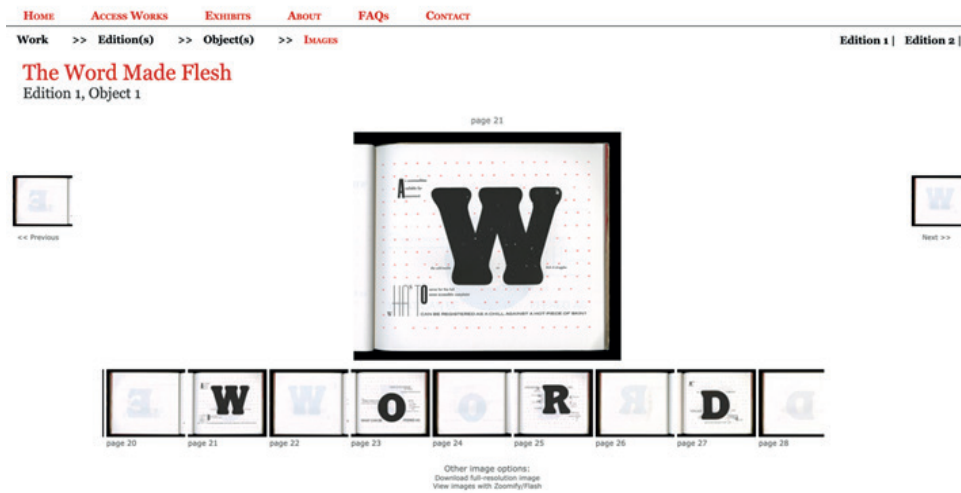
Figure 2



Both images are from *Artists' Books Online* (n.d.). Contrasting with *'S crap 'S ample* (1980), *Narratology* (1994) was photographed instead of scanned. This technical decision made the limits of the page cuts recognizable as an addition to the digital experience of reading this document.

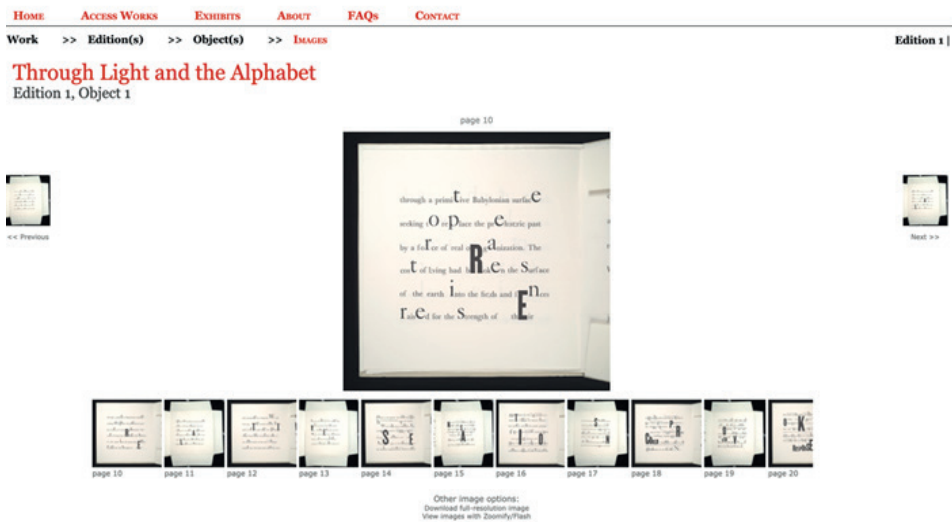
The second comparison shows how the digitalization of documents can emphasize some visible particularities by resizing and/or transforming the sequence page arrangement in order to allow or improve online navigability, which poses the performative nature of digital materiality. In *Artists' Books Online* (n.d), two notable cases comprise such effect. The titles *The Word Made Flesh* (1989) and *Through Light and the Alphabet* (1986), respectively depicted in Figures 3 and 4, have word-formation between their openings. The display model sequences the opening in the digital format, making the sentence more visible to the reader. In this case, the digitalization intensifies this given aspect to the reader, although any attentive reader would pursue the typographical cues (big type sizes) while reading the text in physical copy.

Figure 3



In this screenshot, retrieved from *Artists' Books Online* (n.d.), the title *The Word Made Flesh* (1989) has its openings displayed in sequence, making evident for the reader the formation of 'WORD.'

Figure 4



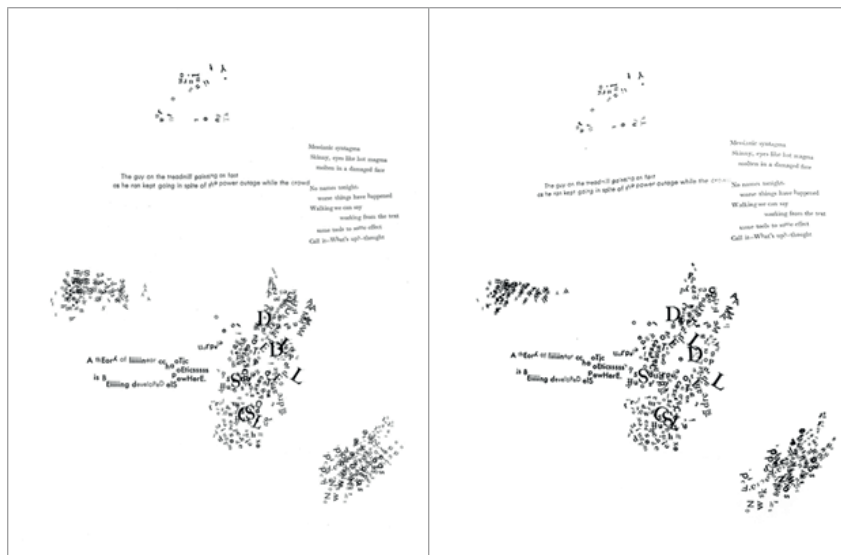
The 'images' section of *Through Light and the Alphabet* (1986), on *Artists' Books Online* (n.d.), displays the linear disposition of the thumbnails of the pages, which makes the sentence written through the openings easily seen: "relative sensation could provoke response."

The last example is the most expressive in terms of collaboration between digital and physical documents: the use of the digital archive as a comparative tool between two or more different copies of the same document. As happens with many unique materials, sometimes a particular document has just a few copies left, making its singularity a matter of its scarcity. Artists' books, as said before, have a limited run, and it is rare to find more than one copy of the same book in the same library collection for comparative purposes. Digital images from a selected specimen permit comparative analysis between other physical specimens—and even digital ones. Because of the nature of my research, I often used the online repository to make comparisons and find granular information about the production that was not described⁵. The title *Stochastic Poetics* (2012) is an excellent example in this matter. Drucker letterpress-printed the same elements in slightly different arrangements, so the same page in each book looks almost the same but displays many printing idiosyncrasies. This process transforms what we ontologically could identify as formal materiality into a forensic trace, used to strongly suggest the performative behavior of these dimensions. Because of that, the analysis of this title requires comparison between copies because its production features evidently interweave the ideas of process and product. In this sense, having the second digital edition of the work, which is a facsimile from the copy 22/39 released in 2013, available as part of the Visual Poetry /ubu Editions⁶ through the UbuWeb repository was convenient when I had the opportunity to research onsite this specific title. The Poetry Collection at UB holds copy 8, and I could immediately compare it with copy 22 (digital) to analyze the visual effects of the most noticeable printing idiosyncrasies, as depicted below.

5 For instance, in *Stochastic Poetics* (2012) it is possible to know which elements on the page belongs to each print run, by comparing copies to see each group of elements is stable and each one is not.

6 See <https://www.ubu.com/vp/index.html>.

Figure 5



On the left, one page was retrieved from the online second edition (facsimile of copy 22), and on the right, the same page on the copy 8 (first edition, physical document, from UB). By comparing these two copies, one can see the different movements of the text highlighted in light yellow. Please, consider that the image on the right was edited from photography to be high-contrast black and white, while the left is a scan.

Based on personal observations and examples brought until this third moment, I would like to discuss how combining digital and on-site as primary source resources can improve the analytical outcomes of humanist scholarship. As an interdisciplinary field par excellence, Book Studies brings to the realm of History and Literature scholarships many considerations about the specificity of the medium and deep concern in understanding and clarifying processes of production and reception within the studied objects. Such aspects are expressed within both the theoretical structure and methodological structure of works in this domain, which is why it is helpful to consider some of the self-reflexive theoretical endeavors of such domain for making reliable the interpretative nature of humanist studies.

The so-called ‘material turn’ in Literary criticism encompasses that the visual aspects appreciated within the process of reading take

part in interpretation⁷. In this sense, analyzing texts entails a historiographic observation of such documents since the idea of the text *qua* text is shattered by such an approach. The text cannot be seen anymore as synonymous of ‘content,’ apart from its non-semantic aspects, such as the material cues of its own historicity, inscribing in the context of its production in the particularities of its background, in the past and present, as a document to be preserved. This vision exposes the problem of document authenticity in thinking about which are the ‘real’ primary sources on humanist research and how Digital Humanities scholarship can acquaint such ‘material turn’ as a counterpart of its endeavors, not as a conflicting outcome.

The fact that a given document is available both physically (in its single specimen or in distributed, multiple ones) and digitally introduces the medium specificities as a concern in analyzing these instances. It also opens the discussions about media migration to the realm of the interface, highlighting particularities and the perceptual adaptation it requires from the reader, which broadens the classical scope of the discussion focused on text and its layout modification (intramedia aspect), the text and its apparatus modification (intermedia aspect), and the text as the holistic sum of its distinct parts distributed in various appearances/appliances (transmedia aspect)⁸. What is the relation between the physical document and its photography or scan, digitally available in a virtual repository? Are they intramedial or intermedial correspondents? They have the same layout within the document and its digital surrogate, but the digital interface addresses medial specificities in how the interface engages the reader with its digital version, shifting the perceptual approach in reception. The digital manipulation of a document can include close-ups and zooms-out in a way the human eye cannot afford by itself. Also, there is the possibility of dissecting a document without any damage to its integrity and interacting with the document’s structure, for instance, visualizing simultaneously what is

7 See Jan Baetens, «Visual-Verbal Materiality», *Comparative Literature* 70, n.º 3 (2018): 357–68, <https://doi.org/10.1215/00104124-6991755>.

8 See Baetens, «Visual-Verbal».

just possible to experience physically in sequence, as Figures 4 and 5 depict. Not to mention the possibility of cross-referencing and searching for words using OCR⁹ technology, useful for document comparisons. As already known, these additions may increase the number of documents that make up a *corpus* of analysis and the deepness in which each document is observed.

The virtue of document analysis that conveys such a dual approach to primary sources is that the distinct interfaces, that is, the interface of the document itself and the interface of its second-level mediation in the virtual world, propel distinct perception of the same studied object, prompting new assumptions about the hypothesis posed in the prospectus. It elucidates the subject(s) researcher(s) about the process of researching itself, highlighting the idiosyncratic aspects of scientific observation due to the interpretational contrasts between distinct instances of contact with the same object(s), which enriches epistemological aspects of the humanist methodology.

It is worth emphasizing that, in the present scenario of global complexity, boosted due to the Covid-19 worldwide health crisis, the contribution of documents made accessible through digital means is invaluable. Digital repositories may constitute a cornerstone to equalize opportunity among researchers elsewhere in their object studies origin. Martha Nussbaum¹⁰ reviews and extends the “Capabilities Approach,” initially outlined by Amartya Sen, pointing out the view of “each person as an end, asking not just about the total or average well-being but about the opportunities available to each person,” which means “substantial freedoms, which people then may or may not exercise in action.”

Considering the impact of computational ubiquity in intensifying Positivist and Empiric bias on Social and Humanistic Sciences, it is relevant to boost Humanist scholarship in its hybrid model as a stim-

9 Which stands for ‘Optical Character Recognition.’

10 Martha Nussbaum, *Creating Capabilities* (Cambridge, MA/London: Harvard University Press, 2011).

ulus to critical thinking and cooperation among countries through the international collaboration within institutions worldwide, enhancing the range of opportunities available to each humanist researcher. The “Lisbon Declaration on Humanities, Open Research and Innovation”¹¹—resulted from a collectively formulated report¹² made by the ‘Youth Forum on the Future of Humanities’ under the scope of the ‘European Humanities Conference,’ which took place in Lisbon in May 2021— offers guidelines for promoting Humanities as the support for access and diversity within the process of knowledge production, divulgation, and usage. The Lisbon Declaration features the “concern that the humanities often lack, in higher education and research systems, the resources and recognition necessary for their full potential to be captured.” As a call to action, the text recommends to “*Encourage* humanities scholars to engage actively in research, education and innovation [...], contributing to new modes of knowledge production and diffusion, together with innovative concepts and understandings of evidence” and to “*Request* research and higher education institutions and employers to actively promote **mobility of students and researchers in the humanities**, across geographic borders and disciplinary fields”¹³.

The awareness of such questions among the European Humanists indicates that efforts must be taken in order to guarantee sounder strategies/actions for sustainable development of Humanist scholarship in the quickly evolving technological scenario, achieved by interweaving and balancing hybrid research solutions with worldwide institutional alignment.

This essay, as stated before, is a personal contribution to this broad discussion, as my subjective experience can evolve to the partial contribution for a research model for further humanist research. There is no gain in positioning preferentially towards only one of these anal-

¹¹ The whole declaration can be found at <https://europeanhumanities2021.pt/lisbon-declaration/>.

¹² Find the report in <https://europeanhumanities2021.pt/youth-forum-report-humanities-for-the-future/>.

¹³ *Lisbon Declaration on Humanities, Open Research, and Innovation*. 2021, 3, <https://europeanhumanities2021.pt/lisbon-declaration/>, original emphasis.

ysis options (when both are possible). It may jeopardize the impact of the outcome of any humanist research, either by the prejudice of engaging with the digital humanities and its new technological tools through the circumscription of documental research to the physical universe or by the loss of material factors indispensable for document interpretation. The latter is substantial for recognizing the situational and historiographical aspects of the objects of study within humanistic research.

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