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Visual Text: Encoding Challenges in Picasso's Poetry

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ABSTRACT

Around 1935, Pablo Picasso started writing poems, almost completely abandoning his career as an artist. This sudden change of emphasis may have been provoked by a number of personal and social causes. Picasso did not perceive this as an illogical shift in his output and always saw a clear connection between visual and verbal composition. His interest in alternative methods of expression might have already started with his fascination for linguistic structure as a whole with his cubist paintings.

Encoding Picasso's poetic manuscripts provides an interesting case that needs to be addressed in the pedagogy and practice of the Text Encoding Initiative (TEI) Guidelines. In this paper we will discuss how Picasso's poems present a challenge for the expressive capabilities of the TEI Guidelines and offer a solution to encode graphic features and stratified text in machine-readable form.

Keywords: *Picasso, poetry, visual text.*

INTRODUCTION

Around 1935, Pablo Picasso started writing poems, almost completely abandoning his career as an artist. This sudden change of emphasis may have been provoked by a number of personal and social causes. Picasso did not see this as an illogical shift in his output. To quote Marie-Laure Bernadac (Bernadac 1989): "I am in complete agreement with [the] linguistics of cubism as a structural language. Picasso is very conscious of the ambivalence of language, the ambivalence of words ... Picasso always played with the ambivalence of words ... The papiers collés [may be thought of] as 'proverbs'; that is, as things that take the place of the verb 'to paint' ... The battle between word and image, between art and reality, between different systems of signs ... but one must never forget that Picasso's cubism is two things at once; it's painting and it's language ... His whole life he was obsessed with the relationship between painting and writing ... the battle between word and image, between art and reality." Picasso always saw a clear connection between visual and verbal composition. Indeed, his interest in alternative methods of expression might have started with his fascination for linguistic structure as a whole with his cubist paintings.

Many books have been published on Picasso's writings, including a comprehensive collection of all his poems and plays (Bernadac, Marie-Laure and Piot, Christine 1989), as well as a four-volume concordance (Mallen 2009) (Mallen 2010). There have also been many exhibitions on this aspect of his career, such as the one at the Yale University Art Gallery in 2009 or the one currently at the Museu Picasso, Barcelona.

Picasso's poetry is not only interesting as a form of expression from someone who is primarily known for his plastic output; it is also puzzling for anyone researching the interconnection between language and writing, i.e. verbal and graphic signs. While there is a common thread between his poems and his artworks, the writings provide a window into Picasso's mind that is separate from his own artistic creations. In short, his texts have three combined characteristics that make them different. Examples of these characteristics are shown in figure 1.

Figure1. *Example of the graphic components in Picasso's poetry. P. Picasso, "si yo fuera afuera ... (2)", Claude Ruiz-Picasso Collection, 1935.*

First, the combination of text and graphic material is reminiscent of Picasso's collages in which different media were used for a single composition. As was the case with collages, words do not lose their physical presence as they enter the realm of signification; they are equally valid as material elements, providing tonality and rhythm to the lines of the poem, as the color and texture of the pasted papers did in those cubist compositions. According to Fabb, the language of poetry has both linguistic and non-linguistic characteristics (Fabb 2010). Lines, for instance, are subject to constraints which differ sharply from those imposed on linguistic entities, most strikingly, they are often subject to concatenative constrictions, such as rhyme and rhythm. In this sense, poetry is composed in a different way from ordinarily generated language. The combination of text and graphic material Picasso's poetry drove our efforts to investigate if there a correlation between graphic elements and verbal context in which they occur.

Second, Androula Michaël defines Picasso's poetry as a space of "labyrinthine writing" where words proliferate, attract one another, and break the syntagmatic line of language, freeing phrases from grammatical constraints (Michaël 2011). Sentence composition in natural language usually begins with a conceptual structure and the selection of the semantic part of the word, which is then followed by the selection of the formal parts of the word, to finally combine words into sentences according to syntactic rules (Jackend off & Wittenberg 2014). In this regard, literary language differs from natural language in that the conceptual structure is not necessarily the driving force; sometimes the conceptual structure emerges from the text. Thus, the poet plays both the role of writer and reader.

As writer, Picasso produces lines by concatenation which may be conditioned by graphic factors as well (rather than by ordinary syntax). Usinga line from his poem "lengua de fuego abanica ... (7)" as an example: "lengua de fuego - [abanica] su cara - en la flauta - la copa - que cantándole - roe - la puñalada", the hyphens allow those constituents to be read, at least in principle, concurrently (with "su cara" interpreted along with "en la flauta"), or consecutively (with "en la flauta" interpreted after, and independently of, the previous constituent). As a reader, he makes sense of what he writes by syntactically generating an unspoken match to the concatenated output. For example, "lengua de fuego" can be concatenated with "en la flauta", as both relate to means of vocal expression, but it would be harder to concatenate it semantically with "su cara". This keeps the concatenated text close to what the syntax would have produced, allowing for variations depending on how strict the semantic match is—which leads us towards our last point.

Finally, and just as with rhyme in conventional poetry, what we find in Picasso is a concatenation of graphic signs that highlight the interconnections between words. Concatenation is a form of parallelism that is widespread in poetry because it is the ideal way to draw attention to the text itself, thus performing what Jakobson called "the poetic function" of language (Waugh 1980). It is also a manifestation of a general cognitive process. However, according to Fabb, concatenation is also a way of priming relations in the mental lexicon (Fabb 2015). It is therefore one way of attenuating the syntactic structure of the text; it involves using two items in sequence (in a syntagmatic relation) which would normally be alternatives (in a paradigmatic relation). Jakobson calls this the Projection Principle (Jakobson 1980). Since items in a parallelistic relation combine paradigmatic and syntagmatic relations, they also combine symmetric and asymmetric relations, which might be the disruptive function Picasso pursues here, as he did in Cubism.

The combination of the unique characteristics in Picasso's poetry leads us to view the collection

of texts as a set of Visually Complex Documents, which as in the different "planes of consistency" of collages, present distinct layers of text and images that form integral parts of the document's representation (Audenaert 2008). However, we believe that Picasso's case is more complex, as it is hard to define the boundaries between graphics and text. From an encoding perspective, his poetic manuscripts present an interesting challenge that needs to be addressed in the pedagogy and practice of the Text Encoding Initiative (TEI) Guidelines. In this paper we will discuss how Picasso's poems present a challenge for the expressive capabilities of the TEI Guidelines and offer a solution to encodegraphic features and stratified text in machine-readable form. In our analysis of Picasso's poetry, we will present our view of the problem within the context of the Online Picasso Project.

The Online Picasso Project

The Online Picasso Project (Mallen 2018) originated from an emphasis on digitally encoded visual cultures, moving away from an understanding of art criticism as predominantly text-based. It consists of a complex system of interrelated databases which include both texts and images pertaining to Pablo Picasso. For each catalogued artwork, its corresponding entry in the database provides metadata about the title, dimensions, medium, probable date of completion, current location, list of exhibitions in which the work has been shown, provenance (i.e., the record of ownership), bibliography (i.e., sources that mention the work), plus additional notes and critical commentary.

As a result of close collaboration between art scholars and computer scientists, the Picasso Project has adopted an innovative architecture with three major objectives: (1) to facilitate the maintenance of a large collection of artworks along with its associated historical narratives, (2) to overcome the limitations of printed art catalogues, enabling its users to create and visualize a dynamic art catalog by combining and linking the different components in the collection, and (3) to provide new ways for composing, browsing, and exploring a collection of artworks, creating multiple transformations from traditional chronologically-based narrative and allowing its users to browse through artworks in ways not possible with printed versions.

To give an idea of the complexity in maintaining the Picasso Project databases, we have to consider the fact that artworks are linked to both a narrative of historical events —which are divided into time spans in the artist's life— and to critical essays. Within the narrative there are references to places where the artist lived and worked, and mentions of people with whom the artist was in contact at any given time. These mentions are accompanied by photographic images. An added complexity is the fact that there are time-constrained pieces of information associated to individual artworks: (a) "provenance", which lists chronologically the locations of that piece, (b) "exhibitions", which indicates venues and dates where that piece has been exhibited; and (c) "references", which mentions catalogs, books and articles where the artwork has been mentioned.

By 2018, the Picasso Project database has reached over 30,000 items, 37,000 notes and commentaries, 8,000 references and 18,000 archived articles. The Project continues to be used by thousands of people on a daily basis. Registered users include Picasso collectors, museum directors and staff, gallery owners, auction houses, scholars, students, as well as the general public. More so, the Picasso Project illustrates how new computer-based techniques and information science can collaborate to enhance learning in the visual arts, creating new ways to interconnect visual and textual data that allows for discoveries using digital research methods. In this case, the Picasso Project contains artworks that present challenges for how we encode documents using the TEI Guidelines.

Besides these challenges, many components developed for the Online Picasso Project can be adapted by others in the TEI community that are working on encoding poetry. In this sense, the Online Picasso Project contextualizes our work. For example, the chronological narrative explores the interrelation between Picasso's writings and his output in other areas such as drawing. A similar structure could be used for an analysis of interactions in other authors who also have different competences, not limited to poetry and the visual arts, such as poetry and music, etc. This structure provides an example of a setting that allows the exploration of how different documents may interact with the encoding of the text.

Implementation

The repository of poems in the Online Picasso Project is stored in a My SQL database (Oracle Corporation 2018). This database has tables and

relations that divide the writings into poems, pages, and lines. The poems are reconstructed using standard join operations —allowing the words and lines to be retrieved along with additional metadata such as title, section, and line number. Additionally, the poems are divided by the language they were written in, which can be either Spanish or French. Figure 2 shows the Entity Relation Diagram describing the poem tables in the Online Picasso Project.

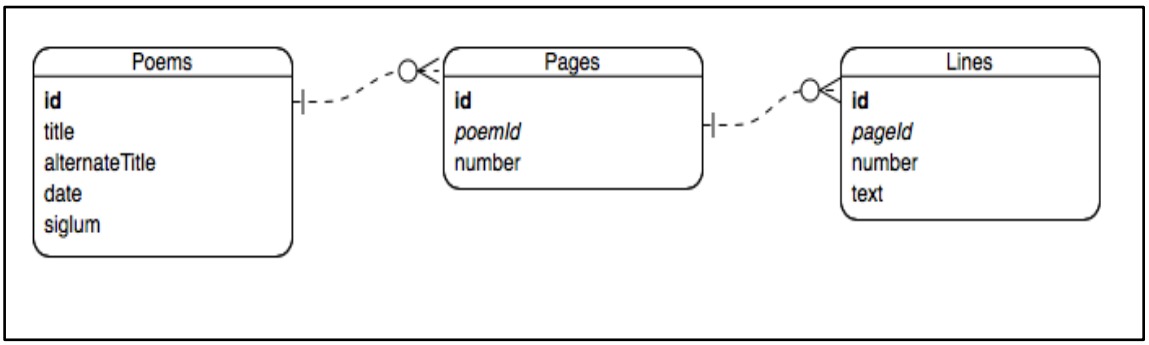

Figure2. *Entity Relation Diagram describing the poem tables in the Online Picasso Project.*

We then exported the tables into a SQLite database (SQLite 2018). We did this to be able to manipulate and access the individual records locally. Then we used Python (van Rossum 1995) to perform basic transformations to the text and used the lxml library (lxml 2018)to output the poems into XML files that would comply with the TEI P5 guidelines. As expected, each XML/TEI file includes metadata in the header that describes the poem and identifiers for the image facsimile corresponding to each page that is contained in the Picasso Project.

We currently are in the process of publishing a preliminary version of the poems in TEI, which we plan to make available on the Online Picasso Project. In this paper we will use "non plus frappe ... (4), l'arôme des fleurs ... (4) (Baigneuse à la cabine)" as a test case. Figure 3 shows a facsimile for this poem. It was at this stage of our work that we found that the TEI has some limitations in terms of its expressive capabilities to encode graphic features and stratified text. Although we are not alone making his claim —Scholger proposed a practical implementation to interconnect text and images (Scholger 2017), and Haaf and Thomas created a pure TEI subset for the unambiguous annotation of manuscripts (Haaf and Thomas 2016)— Picasso's poetry has characteristics that further expose these limitations. In the next section of this paper we will describe our solution to encode graphic features and stratified text in machine-readable form while adhering to the TEI Guidelines.

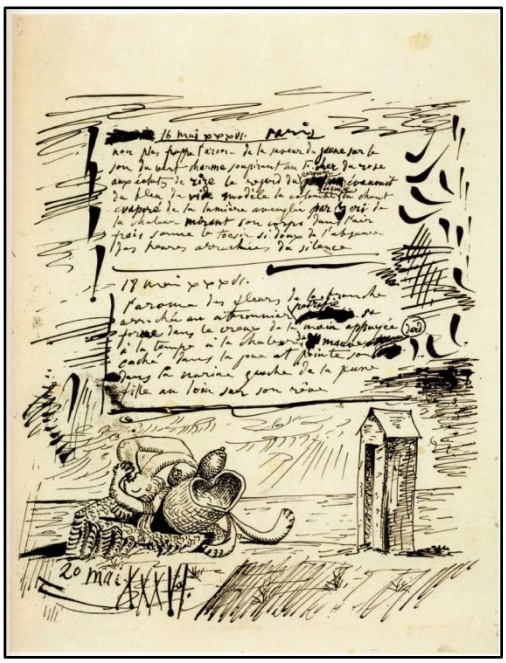

Figure3. *P. Picasso, "non plus frappe ... (4), l'arôme des fleurs ... (4) (Baigneuse à la cabine)", Galerie Kornfeld und Cie, Bern., 1936.*

Encoding Challenges

Bitmap image files can be read by computers, but they are not easily parsed. In this sense, we based our approach on using formats that could be easily parsed by computers—and for this we needed a procedure to transform our original bitmap images into a different format. Scalable Vector Graphics (SVG) is a vector image format for two-dimensional graphics with support for interactivity and animation. SVGs and the TEI Guidelines are both based on XML—which made them very suitable for our purpose.

We tried using PyCairo (Pycairo 2018)and other open source converter libraries that provide bindings with Image Magick —for example:

eea. Converver (European Environment Agency 2019). In our case, we had better results using online tools that provide access through an API and offer batch processing (for example: https://svgcreator.com and https://www.online-convert.com).

We then applied the guidelines for the representation of primary sources by defining surfaces in digital facsimiles and included parallel transcriptions for the stratified text (Text Encoding Initiative 2019). This procedure allowed us to map and define specific areas of the SVGS, and link them to TEI-encoded transcriptions —all while providing a link to the primary source in machine-readable form. Figure 4 shows an example of how we mapped zones in an SVG and linked them to TEI encoded transcriptions.

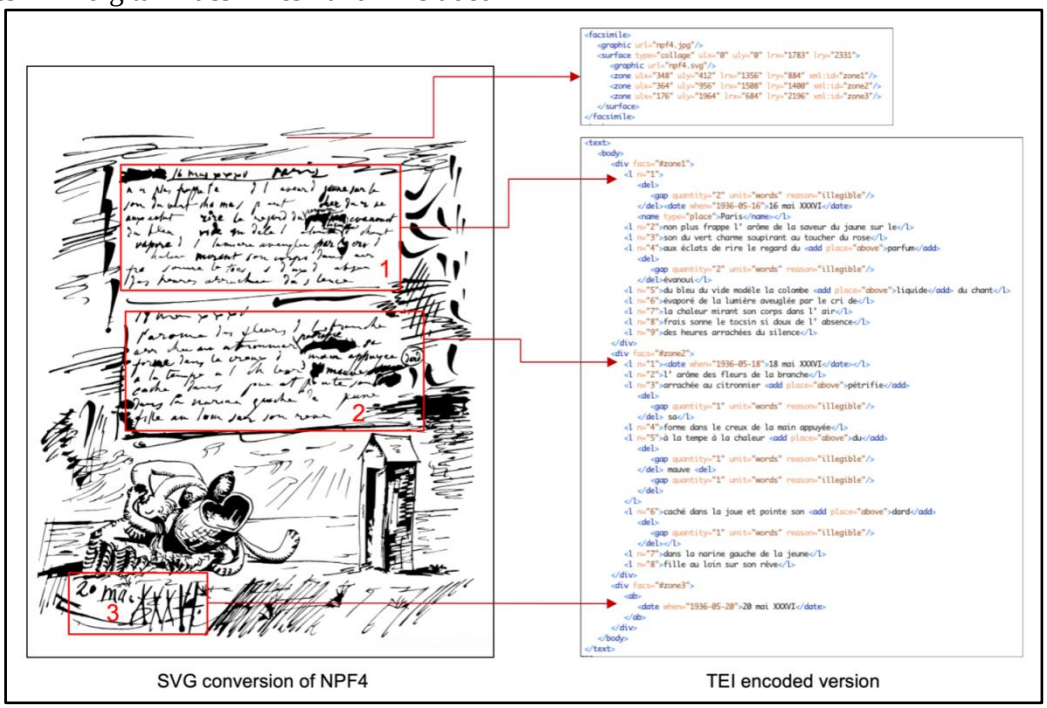

Figure4. *Example of mapping specific zones in an SVG and linking them to TEI encoded transcriptions.*

DISCUSSION

For some time now, our research has taken us through different approaches in order to analyze Picasso's artistic legacy (Meneses et al. 2011) and his poetry (Meneses et al. 2008). However, some of the visual aspects of Picasso's poetry demanded further investigation. As we stated earlier, one aspect that drove our efforts was to investigate if there a correlation between the graphic elements and the verbal context in which they occur. In this sense, encoding the corpus of poems using the TEI Guidelines for parallel transcription contributes towards our understanding of Picasso's work as it allows us to place emphasis on specific zones that are defined by their coordinates in facsimiles.

Picasso's poetry is similar to William Blake's in that graphic elements are used to enhance the text in both cases. Any account of this type of poetry should include an explanation for the observed correlation between a poem and its accompanying graphic elements. The difference is that all graphic elements in Blake's poetry are decorative in nature; while those in Picasso's are, for the most part, triggered by linguistic factors, such as word separation, word-deletion, word-insertion, etc. All these incidents can be accurately encoded using our approach that relies on the TEI Guidelines.

The layers in Picasso's poetry play an important part towards the decisions that we made in our analysis. Picasso's poems are revisited in different times, changing from one state to another at various moments of their genesis. Each layer with new additions and deletions is carefully dated by the author. In these different versions each edit is often preserved, indicating the importance that each of them had for the author. The "final" copy we often read is artificial in the sense in that the printed version has been subjected to a frozen linearized transcription (often carried out by Picasso's secretary, Jaime Sabartés). These linear transcriptions miss to portray the information in the additional layers that can be found the original text. Furthermore, the information in these layers can be encoded using the methods that we have presented in this paper.

Some of the aspects of our work further attention. For instance, the SVG conversion step could be refined to represent facsimiles with greater detail. The next step in our analysis is to analyze how the presence of a graphic element in a specific line of a poem affects the interpretation of each line and of the poem as a whole. The procedures that we have outlined in this paper lays the foundation for future iterations of our work.

Conclusions

In this paper we have discussed how Picasso's poems present a challenge for the expressive capabilities of the TEI Guidelines and offered a solution to encode graphic features and stratified text in machine-readable form. Our efforts were focussed on investigating if there a correlation between the graphic elements and the verbal context in which they occur. Taking into account that the TEI includes guidelines for encoding machine-readable texts, representing these visual features becomes an important aspect. As a work in progress, we will continue to explore solutions to these issues within the boundaries of the TEI Guidelines.

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Author's Biographies

Dr. Luis Meneses is a Postdoctoral Fellow at the University of Victoria. He is a Fulbright scholar, and currently serves on the board of the TEI Consortium and on the IEEE Technical Committee on Digital Libraries. His research interests include digital humanities, digital libraries, information retrieval and human-computer interaction.

Dr. Enrique Mallen, Professor at Sam Houston State University (SHSU), is Director and General Editor of the Online Picasso Project (OPP), a digital catalogue raisonné on Pablo Picasso used by Picasso scholars throughout the world. He has written extensively on Picasso's Cubist and Surrealist periods, as well as on Picasso's literary writings.

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