Semantic Domains in Picasso's Poetry

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The question of why Pablo Picasso dedicated a considerable amount of his time to writing around 1935 is open to speculation. Many have cited the Spanish artist's emotional crisis, the political turmoil in Europe in the period between the two wars, and the menace of a fratricidal confrontation in Spain as possible causes. All of these views are predicated on an assumed irreducible conflict between visual composition and verbal expression. However, it should be considered that Picasso's interest in alternative methods of expression might have stemmed from his fascination with linguistic structure as a whole during his cubist period. To quote Marie-Laure Bernadac: "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" (Rubin et al., 1992). Many other authors have pointed out the parallel development of structural linguistics as delineated by Ferdinand de Saussure and the explorations of the different phases of cubism by Picasso, Braque and Gris.

The connection between his writings and his plastic works has been explored by Cowling (2002), who refers to both his poems and his artworks as executed in a "spider's web" style: "A glance at the manuscripts reveals that he was attentive to the look and lay-out of the pages, relishing the dramatic impact of such things as variations in the size and style of the script, changes in the flow of ink or the thickness of the nib (and the color when he used crayons), contrasts between letters, numbers, dividing lines and the special punctuation marks he favored, different systems for crossing-out and large blots of ink. The calligraphy varies a good deal and is sometimes ornate and the effect handsome and arresting". For a similar position, we may turn to Baldassari (Picasso and Baldassari, 2005), who poses a clear link between Picasso's visual works and his poetry: "In the decade between 1925 and 1935 ... Picasso continued to pursue cursive linearity in canvases where poetic shapes and ideograms represented bathers and acrobats. The scrolling lines, bursting constellations, curving grids, and broad strokes that cross the surface of his pictorial work then found a new dimension in his poetic writing. Breton fully sensed its importance ... 'This poetry is unfailingly visual in the same way that the painting is poetic'". Earlier, Daix (Daix and Emmet, 1993) had pointed out that "Picasso did not believe in spontaneous poetry – or painting. His attitude was that of a professional: someone who had put written fragments into his paintings and could certainly paint poems as well. The graphism of his letters and the way they were placed on a page were also a deliberate, visual creation". Despite the close correlation between Picasso's poems and his artworks, one cannot deny that Picasso's poetry is essentially verbal, and not conditioned by plastic principles. This is precisely what makes Picasso's poetry so interesting: it provides a window into Picasso's mind that is separate from his own artistic creations.

Our research has taken us through different approaches in order to analyze Picasso's artistic legacy (Meneses et al., 2008a, Meneses et al., 2011) and his poetry. In our study of Picasso's writings, we first created a concordance of all of his poems and plays, separating the poems by language (Spanish and French) (Meneses et al., 2008b). We then designed a dictionary based on this bilingual concordance of poems that was dynamically generated, identifying the stanzas and lines of each poem. A third step led us to provide an English translation to every French and Spanish term, which allowed us to reduce the number of concepts that Picasso works with. This reduction improved clarity for two reasons: First, we eliminated the language distinction (Spanish vs. French); and second, because we merged morphological variation into single units, so that tense/mood alterations for verbs, and gender/number differences for the noun, for instance, were bypassed. As a result, we ended up

with three lexical lists: one for Spanish terms, one for French terms, and one with English translations that links the first two lists. The third lexical list may be considered a semantic dictionary specifying concrete concepts in Picasso's writings.

However, we felt that some aspects of Picasso's poetry needed further exploration. In this paper we propose to explore the possibility that Picasso's transition into poetry is simply one more manifestation of his pursuit of alternative approaches to language as a means of representation. In this sense, one thing that remained to be determined was how concrete concepts in both languages cluster into representative semantic categories; and how these categories interact with each other in semantic networks. For this purpose, we have expanded upon our previous efforts by using statistical models and algorithms. More specifically, we have used Latent Dirchlet Allocation: a hierarchical probabilistic generative model that can be used to represent a collection of documents by topics (Blei et al., 2003) to analyze Picasso's poetry. Our analysis demonstrates that topic modeling can highlight patterns and trends in Picasso's poetry that escape other forms of traditional analysis.

We will elaborate on the details of our current analysis using three points. First, it is safe to assume that all poets limit themselves to a number of representational topics as they compose their poems. We know that the European conflict, the crisis in Picasso's own personal relations and the immediate objects in his surroundings constituted the backdrop of many of his compositions. In this respect, topic modeling has allowed us to more precisely delimit the lexical manifestation of these themes, enabling us to see interrelations between words within particular topics.

Secondly, topic modeling has allowed us to see correlations between concrete themes as identified by certain lexical terms and different languages. These correlations are particularly interesting in the case of a bilingual poet like Picasso. For example, psychological concepts–madness, for example– are often handled in French; while more physical references to his immediate surroundings are circumscribed to Spanish terms. However, in cases where both languages are used to communicate a similar concept, Picasso chooses Spanish when he intends to apply a more folkloric tone. Using the English lexical list of terms, we were able to highlight and identify the interconnections between his poems in different languages.

Finally, we have determined that, in Picasso's poems, certain semantic domains are predominant in each of the two languages he used – Spanish and French. For instance, Picasso is more inclined to refer to food items and everyday objects in his Spanish poems, which thus provides a clear reflection of his physical environment and of the harsh economic situation of this time. On the other hand, his French poems concentrate on more abstract concepts involving politics, religion and sexuality, which may be attributed to the influence of French Surrealist writers.

To summarize, in this paper we propose to analyze the ways in which concepts in Picasso's poems and plays cluster into semantic categories; and in turn, how these categories interact with other concepts within a complex semantic network. Furthermore, through the use of statistical models we have been able to identify and pinpoint representative themes and correlations across different languages. Although topic modeling can point us to patterns and interconnections within Picasso's writings, accurately characterizing the nature of these relationships remains a challenge.

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