# Gender relations in Spanish theatre during the Silver Age: a quantitative comparison of works in the Spanish Drama Corpus 

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#### Abstract

One of the many changes witnessed by Spanish society at the beginning of the 20th century was the early reshaping of the role of women, including in the realm of theatre. During the first three decades of the new century, Spanish theatre was thriving, favouring the emergence of new gender roles: there were new female playwrights, professional actresses, stage designers, costume designers, theatre company directors, etc. Against this background, i.e. the awakening of female consciousness, it is worth exploring whether the growing position of women in public life goes hand in hand with a greater presence of female characters in the plays composed at that time. With a view to assessing the position of women in playwriting in the Silver Age of Spanish literature, twentyfive stage plays by nine playwrights written between 1878 and 1936 have been analysed, taken from the Spanish Drama Corpus, which forms part of the DraCor project. The distribution of male and female protagonists on stage and the influence of female presence in dramatic conflict have been traced based on quantitative textual factors. The study thus tests the potential of quantitative methods and their scope for the structural analysis of plays and studies on dramatic corpora from a gender perspective.


Keywords: Spanish Silver Age; Spanish Drama; Women in Theater; Women's studies; Gender perspective; Quantitative methods.

## 1. Introduction

The age of Spanish literature known as the Silver Age, referring to the first third of the 20th century, ${ }^{1}$ was an extraordinarily rich period for arts and culture, and certainly a time in which life on stage flourished. The first three decades of the 20th century witnessed a boom of intellectuals and literary men who succeeded each other in three great generations of literature, those of 1898, 1914, and 1927, with up-and-coming playwrights in their ranks such as Unamuno, Valle-Inclán, Casona, Max Aub, Jardiel Poncela, Mihura, and García Lorca, among others. Their contribution to drama represented a revival of Spanish theatre as they embraced modernity, poetry, music, and scenography, on par with the theatre at the forefront of the European stage. The dramatic arts also gained popularity across the country's provinces, becoming a powerful medium for spreading new ideas and social models.
Meanwhile, the beginning of the 20th century coincided with great social change in Spain and the early transformation of female roles in the private sphere, and especially in the public sphere. Modernization
brought change in terms of the way women were seen, how they saw themselves, their perceived status, rights and duties, their role in culture, society, politics, and of course, theatre, in line with the suffrage and feminist movements that took place across Europe and America. Women asserted their right to education, including university education; to civil liberties, through the 1932 Spanish Law on Civil Marriage; social liberties, through securing women's voting rights in 1931; and political liberties, through the entry into public office of women such as Victoria Kent and María de Echarri (Romero 2021). They began to take up new occupations, although not without difficulty. The female community saw the rise of women writers, including Margarita Nelken, Ernestina de Champourcín, Rosa Chacel and Federica Montseny; journalists, such as Carmen de Burgos, Isabel Oyarzábal, María Luz Morales, and Alma Angélico; scientists, such as Jimena Fernández de la Vega, Zoe Rosinach and Jenara Vicenta Arnal Yarza; lawyers, including Clara Campoamor, María Ascensión Chirivella, and Sofía

[^0]Casanova; athletes, such as Lily Álvarez, Aurora Villa, and Margot Moles, and artists like Maruja Mallo, Fernanda Francés, Ángeles Santos, and Remedios Varo, to name but a few. The changing lifestyle and customs were also reflected in the way people dressed (Gómez Blesa 2009; Ena Bordonada 2021).

That said, turning to the sphere of theatre-one of the period's greatest mediums for spreading new ideas and lifestyles-is it possible to measure how women are represented on stage, how many female characters are portrayed, and what degree of prominence and dramatic power they are given in comparison with male roles? Digital humanities and, more specifically, social network analysis, have been asking: what determines the leading role of a character? What do we measure to calculate and compare the degree of centrality of a character or a group of characters in a literary work? Relevant studies highlight the complexity of the criteria that determine the importance of protagonists (Landherr, Friedl, and Heidemann 2010; Fischer et al. 2018; Gómez 2019; Santa María, Calvo Tello, and Jiménez 2021). The exploration of this method from a gendered approach adds new insights and perspectives to the study of female agency in the overall social interaction network. As Medici notes, 'social network analysis has great promise as a tool to reveal the figures whom we do not already recognize as important' (2018: 159). Along these lines it is worth mentioning the work of Amelang (2019) and Pang, Sun, and Zhu (2023), as well as studies that trace the prominence of women in Spanish playwriting during this period (Martínez Carro 2018, 2019; Dabrowska and Frutos 2020). While these authors focus on dramatic works or authors, yet no macro-analytical study has been carried out, that is, one that addresses a broader corpus of dramatic texts (Jockers 2013).

## 2. Women in Spanish theatre during the Silver Age

The social change referred to above also impacted the realm of theatre. Women had to take centre stage, both literally and figuratively, to perform both old and new female roles. Specifically, in pre-Civil War Spain, we can talk of a true boom of actresses and businesswomen who ran theatre companies, and other female theatre professionals including stage designers and costume designers, such as Victorina Durán. This period saw a rise in the number of female dramatists, such as Rosario Acuña, Pilar Astray, Carmen Díaz de Mendoza y Aguado, Elena and Carlota O’Neill, María Lejárraga, and other lesserknown authors. Professional actresses were seen more in theatre companies, but they still needed their husbands' permission, as stipulated by the provisional regulations of the newly created 'Joint Committee on Performances
in Madrid' (Estatutos 1928: 345). The status of actresses shifted as they were afforded greater consideration and reputation in the eyes of society, as reflected by the emergence of magazines such as Comedias $y$ comediantes (1909-12) and Eco Artístico (1909-23). These actresses, some highly talented and successful, demanded not only more attractive, ambitious roles for women, but also new profiles. As Russo observes, women were performing multiple roles within the performing arts:
> several active figures, including both authors and leaders of theatre groups, remained in the shadows: Magda Donato (Teatro de la escuela nueva, El Caracol); Pura M. de Ucelay (Anfistora); Carmen Monné (El Mirlo Blanco); Josefina de la Torre (Teatro Mínimo) and Pilar de Valderrama (Fantasio). There was an abundance of well-known actressesCatalina Bárcena, María Guerrero, Lola Membrives, María Palou, Margarita Xirgu, to name a few (2019:318) [Translated from Spanish].

The list of famous actresses goes on: Carmen Díaz de Mendoza, Carmen Moragas, María Gámez, María Fernanda Ladrón de Guevara, and Aurora Redondo. Over time, some founded their own companies, such as María Tubau-who was also a teacher at the Madrid Conservatoire of Music and DeclamationMargarita Xirgú and María Guerrero, who ran her company together with her husband, Fernando Díaz de Mendoza. The history of women in theatre and the many performance-related roles they took on is an area that, until now, has been little explored, as highlighted by Saumell Vergès: 'in the academic world, the emphasis on the study of dramatic texts has hindered research on the role of women in different theatrical settings' (2019: 13) [Translated from Spanish]. This includes not only the work of actresses, but several other stage jobs taken on by women, which determines not only 'who' does theatre, but 'how' they do it.

Given this context, it would not be trivial to measure the extent to which the changes to the social and professional lives of women, including stage jobs (female playwright, actress, company manager, stage designer, and make-up artist) are (or are not) echoed in the dramatic works of the time, that is, if they are linked to a greater prominence-both quantitative and qualita-tive-of women on stage. Since a theatrical performance is a projection of the society that creates it, the study of female agency on stage allows us to shed light on the roles given to women. This has consequences in terms of both art and culture, given the kind of roles and messages transmitted through each drama, and also practical consequences, in that actresses receive more work. Our study aims to determine whether the social changes discussed generated greater prominence
for women in the selection of male-written dramatic works from the Spanish Silver Age contained in the Spanish Drama Corpus, an accessible corpus with easily consultable metadata (graphs, CSV, Network properties, etc.), which forms part of Drama Corpora Project (DraCor). Besides the fact that the corpus currently comprises works by male writers only, the reason the study focuses on male writers is because the change of paradigm in question would be revealed more clearly, were a greater presence and importance of female characters to be found. The results may provide insight and facilitate later research on whether female playwrights show preference towards having female characters on stage over male characters. This could be compared to the presence of male and female characters in the works of their male counterparts, which is the target of analysis in this study.
The notion of gender has given rise to numerous works in recent years that diversify this concept and the approaches to the study. For the classification of characters into 'feminine' and 'masculine' we base ourselves here on the 'grammatical gender' of the Spanish language. Since they are human characters, this gender coincides, in most cases, with the 'natural gender' or the 'sexual class' (Sancha 2021). It also coincides with 'biosocial gender', another possible term that accentuates the biological, psychosocial, and experiential variables in the construction of the human subject. However, the labelling of 'undefined' characters is more complex. This group includes choral characters on the one hand, and animals and symbolic, that is, non-human characters on the other. In the first case, some groups of characters have a clearly identifiable gender ('Voices of thieves', 'Gaggle of women', and 'Voices of old women') and others do not ('Mortals and gods', 'Voices', and 'All'), so we have chosen to unify them in the same category. As for non-human characters ('cat', 'a parrot', 'Moon', and 'Death') we have decided to group those cases as 'undefined', because we focus our interest on human characters as individuals. ${ }^{2}$ Also for reasons of length, we have not delved into the correlation between their grammatical gender and the personification of these animals and symbolic characters (Comrie 2005), since in the scene these were represented by humans and anthropomorphized by the audience or readers, who mentally categorize them into a genre ('conceptual genre').

## 3. Objectives

The aim of the study was to carry out a quantitative comparison of the female and male characters in the twenty-five dramatic works compiled in the Spanish Drama Corpus. The method employed was that of social network analysis, which involves comparing the
centrality measures of the characters, allowing us to map the gender relations of the sampled works of Spanish theatre by male playwrights in the Silver Age. Focusing solely on the titles of these dramas, a first hypothesis would support the pre-eminence of women in the works under analysis. Names alluding to women feature in ten of the twenty-five texts ( $n=40$ per cent). Specifically, eight proper nouns are used either for the sole title of the piece (Asclepigenia, Teresa, Electra, Casandra, Fedra, and Yerma) or form a significant part of the title (Doña Rosita, la soltera o el lenguaje de las flores and La casa de Bernarda Alba). Two titles contain nicknames or monikers: Doña Perfecta and La zapatera prodigiosa. On the other hand, names of men are noted in just three titles ( $n=12$ per cent), namely La venganza de Atahualpa, Juan José, and ¡Usted es Ortiz! Furthermore, certain feminine nouns as the main nouns in another eight pieces ( $n=33$ per cent): Mancha que limpia, A fuerza de arrastrarse, Águila de blasón, La conferencia de Algeciras, Divinas palabras, Cara de plata, Luces de bohemia and Bodas de sangre; and masculine nouns in three ( $n=12$ per cent): Romance de lobos, Los pergaminos, and El refugio. A special case is that of La esfinge ( $n=3$ per cent) by Unamuno, as the male protagonist, Ángel, is referred to using a feminine noun.
Ten titles of the twenty-five sampled works include proper nouns for women, which potentially implies a strong female prominence in the texts under analysis. However, to test this insight, the following research questions (RQ) have been formulated:

RQ 1: What is the proportion of women and men on stage, expressed in numbers?

RQ 2: In quantitative terms, is speech from female characters more prevalent than that of male characters?

RQ 3: Which characters are best connected and have greater influence on the plot when interacting with others?

The results of the comparative analysis serve to quantify the dramatic influence of the heroines in this sample of modern theatre. We believe this detail will provide insight for studying the presence of women in professional theatre settings in Spain, since it entails the presence-or absence-of actresses in the performances of said works.

## 4. Methodology

The quantitative procedures were based on the digital version of the works compiled in the Spanish Drama Corpus, hosted on the Drama Corpora Project website
(https://dracor.org/), a digital platform containing European theatrical texts (Fischer et al. 2019). The works featured in this corpus were written between 1878 and 1936 by nine Spanish playwrights, all men born between 1824 and 1898. ${ }^{3}$ We can visualize the importance of each character within the network of relationships in the play thanks to metadata recorded in XML-TEI format (such as gender, role-protagonist, antagonist, other-importance-primary, secondary, or minor-etc.) and numeric values for each character, such as the number of times the character speaks, the total amount of text spoken by each character, and the number of scenes they are in. The texts of the corpus are also available in CSV, JSON, TXT, RDF, and GEXF format, so they can be processed and displayed through other digital tools. The Shiny DraCor extension (https://shiny.dracor.org) is available through the platform, which has an API for displaying the social networks of the characters in the plays and is available through open access.

In line with the social network analysis approach, the people within a community-in our case, the dramatis personae-form a network of social interaction, where each agent (node) is linked-or not-to the rest of the characters. The properties of a given node are calculated based on the links (edges) it has with other nodes. This allows us to identify the most active, best-connected nodes, which should, in theory, indicate which characters have a greater influence on the plot. To determine their mathematical value that is, the degree of prominence of a character (node) compared to the rest, various centrality measures have been specified, which numerically reflect their capacity to communicate, influence, or transmit information, based on text values.

This quantitative method was chosen considering the research questions established, as it is particularly apt for providing a statistically informed, detailed overview of both male and female protagonists' linguistic output on stage. It is also useful for identifying those characters that stand out and those who remain in the background, and thus for mapping gender relations within the corpus under analysis. To this end, we focused on three indicators of character importance, which we consider to be the three most basic quantitative metrics for studying character relationships in plays: the number of protagonists by gender, the amount of spoken text and the number of links with other members in the network. The first two metrics measure physical on-stage presence and verbal output, while the third is a centrality index of the character in each relational network. Therefore, the three initial hypotheses are tested through three respective methods:

1) The numerical presence of female characters compared to male characters in the various dramatic
works will be determined by means of a quantified list of person by gender (RQ 1).
2) The amount of spoken text per male and female character, by means of a word count of speech uttered (RQ 2).
3) The degree centrality index-which allows us to compare the number of verbal links created between the character and other protagonists-together with betweenness centrality, will indicate the capacity of each character to act as a link between two other nodes.

As a first step to respond to the first research question, the number of males, female, and undefined characters in each of the authors' works was quantified using data provided in the 'Network/Cast list' section of DraCor. We use the term 'undefined' to refer to choral characters, for example, 'Mortals and Gods' in Valera's Asclepigenia; 'Servants' in Mancha que limpia; 'Voices' in Juan José and La conferencia de Algeciras; 'All' in Pedro Muñoz Seca’s ;Usted es Ortiz! and El refugio; 'Gaggle of Women' in Cara de Plata; 'Flocks of Raptors' or 'Beguinage of Old Women and Maidens' in Divinas palabras; 'Local Women, Beguines, Priests and Village' in La zapatera prodigiosa; animals, such as 'Cat' and 'Dog' in ValleInclán's Luces de Bohemia; or symbolic characters such as 'Moon' and 'Death' in García Lorca's Yerma. The data are shown in Table 1, with the plays arranged in chronological order of authorship:

Data on the amount of spoken text by character (verbal presence) were retrieved in relation to each play in TEI format (Downloads/Spoken text/By character). With the aim of refining the study, the analysis has been confined to the three characters who speak most in each play, identifying their gender and determining the total speech count for these three protagonists. The data from all the works were compiled into an array, which was used to create the final charts and graphs with the results of this study.

Finally, information on the central characters that is, those with the greatest number of links in terms of co-occurrence with other characters in the piece (degree centrality), was taken from Shiny DraCor. Degree centrality indicates the number of characters with which the character in question interacts. Thus, the character Electra has a degree centrality of thirteen, which means this figure of Galdós' engages in cooccurrence with thirteen out of fifteen characters. It is assumed that those characters who interact most often will have a greater number of links, thus being more influential on or central to the structure of the play. For each work of theatre, the three main ${ }^{4}$ characters or those with the greatest number of links in the character network were identified, by clicking 'Degree'

Table 1. Number of male (M), female (F), and undefined (UND) characters, per author and per play.

|  | Author | Published | Title | M | F | UND | Total M | Total F | Total UND | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Valera, Juan (1824-1905) | 1878 | La venganza de Atahualpa | 8 | 4 | 0 | 12 | 7 | 1 | 20 |
|  |  | 1878 | Asclepigenia | 4 | 3 | 1 |  |  |  |  |
| 2 | Echegaray, José | 1895 | Mancha que limpia | 4 | 4 | 1 | 17 | 6 | 1 | 24 |
|  | (1832-1916) | 1901 | A fuerza de arrastrarse | 13 | 2 | 0 |  |  |  |  |
| 3 | Galdós, Benito Pérez | 1896 | Doña Perfecta | 12 | 4 | 0 | 27 | 20 | 0 | 47 |
|  | (1843-1920) | 1901 | Electra | 9 | 6 | 0 |  |  |  |  |
|  |  | 1910 | Casandra | 6 | 10 | 0 |  |  |  |  |
| 4 | Clarín (Leopoldo Alas) (1852-1901) | 1895 | Teresa | 5 | 3 | 1 | 5 | 3 | 1 | 9 |
| 5 | Dicenta, Joaquín (1862-1917) | 1895 | Juan José | 10 | 4 | 2 | 10 | 4 | 2 | 16 |
| 6 | Unamuno, Miguel de | 1898 | La esfinge | 9 | 3 | 0 | 12 | 6 | 0 | 18 |
|  | (1864-1936) | 1924 | Fedra | 3 | 3 | 0 |  |  |  |  |
| 7 | Valle Inclán, Ramón | 1907 | Águila de blasón | 43 | 24 | 4 | 153 | 74 | 28 | 255 |
|  | María (1866-1936) | 1908 | Romance de lobos | 28 | 14 | 5 |  |  |  |  |
|  |  | 1920 | Divinas Palabras | 14 | 16 | 7 |  |  |  |  |
|  |  | 1922 | Cara de Plata | 30 | 8 | 7 |  |  |  |  |
|  |  | 1924 | Luces de bohemia | 38 | 12 | 5 |  |  |  |  |
| 8 | Muñoz Seca, Pedro (1879-1936) | 1916 | La conferencia de Algeciras | 9 | 0 | 1 | 42 | 24 | 3 | 69 |
|  |  | 1918 | Los pergaminos | 14 | 12 | 0 |  |  |  |  |
|  |  | 1927 | ¡Usted es Ortiz! | 9 | 6 | 1 |  |  |  |  |
|  |  | 1933 | El refugio | 10 | 6 | 1 |  |  |  |  |
| 9 | García Lorca, Federico | 1934 | Yerma | 5 | 9 | 2 | 25 | 58 | 11 | 94 |
|  | (1898-1936) | 1935 | Doña Rosita la soltera o el lenguaje de las flores | 6 | 12 | 2 |  |  |  |  |
|  |  | 1930 | La zapatera prodigiosa | 5 | 9 | 1 |  |  |  |  |
|  |  | 1933 | Bodas de sangre | 9 | 12 | 4 |  |  |  |  |
|  |  | 1936 | La casa de Bernarda Alba | 0 | 16 | 2 |  |  |  |  |
| Total |  |  |  | 303 | 202 | 47 | 303 | 202 | 47 | 552 |

under the 'Vertices' window to examine the degree centrality.

## 5. Results and analysis

Having collected all the numerical data, we now turn to presenting the results of the analysis. A first look at the Spanish Drama Corpus provides general statistics on the number of characters in the entire corpus (552), with female characters (202) in red, male characters (303) in blue, and undefined characters (47) in grey. The data are shown in Fig. 1.
As shown, there is a greater proportion of male characters ( 55 per cent) than female characters ( 37 per cent). This aspect is not unique to the Spanish corpus; this hegemony of male characters over female characters is present in all the corpora included in the Drama Corpora Project. Interestingly, the Spanish corpus, together with the Swedish Drama Corpus-which
includes works from female playwrights-features 382 male and 327 female characters. Meanwhile, the Greek Drama Corpus, which contains several tragedies named after various mythical women, comprises 275 male and 110 female characters or the Alsatian 232 males and 110 females. These are the four corpora that share the lowest numerical difference in terms of gender. Nevertheless, this matter should be studied in greater detail and depth in future, since DraCor comprises works from different periods, and works by female dramatists are only found in the Swedish and Alsatian corpus.

### 5.1 Gender distribution of characters

In response to the first research question on the proportion of female and male characters, the data calculated from all the works analysed are shown in Fig. 2.

These data can be used to create a timeline (Fig. 3) of the dramas in question showing, for example, that


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■ M \backsim F 』 I N D
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Figure 1. Total number of characters in SpanDraCor by gender
Pedro Muñoz Seca’s La conferencia de Algeciras does not feature a single female character (marked with a blue arrow on the timeline). Meanwhile, at the other extreme we find one of Federico García Lorca's works, La casa de Bernarda Alba, absent of any male characters, as shown by the red arrow on the right-hand side:

The other plays feature both male and female characters in different proportions, and it is evident that the male characters generally prevail over female characters in almost all of them, certain exceptions aside. These exceptions include Mancha que limpia by José de Echegaray and Fedra by Miguel de Unamuno, in which the proportion of male and female characters is identical ( 50 per cent, $\mathrm{F}=4, \mathrm{M}=4$ and 50 per cent, $\mathrm{F}=3, \mathrm{M}=3$, respectively), while in other dramas the number of female characters is greater than that of male characters. This is the case for Casandra by Benito Pérez Gáldos ( 62 per cent, $\mathrm{F}=10, \mathrm{M}=6$ ); Divinas palabras, by Valle-Inclán ( 43 per cent, $\mathrm{F}=16$, $\mathrm{M}=14, \quad \mathrm{UND}=7$ ); and the dramatic works of Federico García Lorca, in addition to La casa de Bernarda Alba as already mentioned (89 per cent, $\mathrm{F}=16, \mathrm{M}=0, \mathrm{UND}=2$ ). In the other four works by Lorca-Yerma, Doña Rosita la soltera o el lenguaje de las flores, La zapatera prodigiosa, and Bodas de san-gre-the numerical proportion of women is also greater than that of men.

As Table 1 and Fig. 2 demonstrate, the preference towards female characters is not the result of some strictly chronological reason, but instead the preference of certain authors. As such, as already mentioned, García Lorca is the only author to include a greater number of female characters than male characters, but the author with the second-best ratio of male to female characters ( 27 M and 20 F ) is Benito Pérez Galdós, one of the less recent authors. Furthermore, if we arrange the playwrights by date of birth, as in Fig. 4, we
can more accurately see and deduce that the number of female characters on stage did not increase over the years, although we can confirm the prevalence of women over men in Lorca's works and in those of the abovementioned Canarian playwright.

### 5.2 Male and female speech

The second research question focuses on the amount of text spoken by each character, in order to quantify how much verbal influence they hold within the play. It is worth quantifying female and male speech that is, the number of words uttered by characters of each gender, given the dominance in coappearance in the same scene this entails for one gender over another. We created an array in which we gathered data on the three characters with the most speech, whether male (M) or female ( F ), ordered from highest to lowest in terms of female character word count, as shown in the table and chart in Fig. 5a and b. We also include the data of the total count of words in the last column so that the differences in each of the works can be better appreciated. This allowed us to identify the six plays in which women utter a total of more than five thousand words, in order from the most to the least speech from female characters: Electra, Mancha que limpia, Casandra, Doña Rosita, La casa de Bernarda Alba, and Doña Perfecta. In just three of those plays, the three characters that utter the most speech are women-Galdós' Casandra and García Lorca's Doña Rosita and La casa de Bernarda Alba. Lorca also wrote Bodas de Sangre, in which the three characters who recite most of the text are women, as well as Yerma and La zapatera prodigiosa, where the word count of the three characters with most speech yields an advantage to women over men. This is also the case in just one of Valle-Inclán's five plays: Divinas palabras.

On the other hand, in Romance de lobos, Luces de bohemia, and Cara de Plata by Valle-Inclán and El refugio, Los pergaminos, La conferencia de Algeciras, and ¡Usted es Ortiz!, by Muñoz Seca, it is the men who boast the highest number of words uttered. These data coincide with the number of female and male characters counted previously. In Unamuno's Fedra and Echegaray's Mancha que limpia the distribution was equal ( $3: 3$ and $4: 4$, respectively), and this balance is maintained in Fedra; however, in Mancha que limpia the voices of Matilde and Enriqueta prevail over that of Don Justo, quantitatively speaking. Divinas palabras was the only play by Valle-Inclán to feature more women than men and more speech by female characters, mostly from Mari-Gaila, Pedro Gailo, and Marica del Reino.

Therefore, it is no surprise that, in the graph showing the gender of the three main characters in each author's works, Benito Pérez Galdós and Federico


Figure 2. Number of male (M), female (F), and undefined (UND) characters in each play, in chronological order. The x-axis represents the number of characters, male (blue), female (ruddy), or undefined (grey). The label on the right is the total number of characters in the play

García Lorca come out on top once again, in terms of the predominance of speech from female characters (Fig. 6). In contrast, in Valle-Inclán and Muñoz Seca's works, once again we find a higher speech count (number of words) for men than women, with
respect to the three characters afforded the most spoken text.

Finally, as for the analysis relating to the second question, upon tallying the total figures from the entire corpus, the supremacy of male voices becomes evident.


Figure 3. Number of male (blue) and female (ruddy) characters in each play by chronological order


Figure 4. Characters by gender according to author, in chronological order. The $y$-axis represents the sum of the characters in the works of each author

The average number of words uttered by women is 20 per cent lower than that of men. Overall, men have more speech time than women in fourteen of the twenty-five plays; in only eleven of those (44per cent) does the speech of female characters predominate as an implication of the prominence of women.

### 5.3 Degree centrality index and betweenness centrality index of male and female characters

Finally, to determine which three characters are most active in the connected network that is, those which have the most links with adjacent nodes-and therefore those that interact the most with other
(a)

| Title | Characters | F | M | Total |
| :---: | :---: | :---: | :---: | :---: |
| Electra | Electra -Máximo -Patros | 8,802 | 3,812 | 21.405 |
| Mancha que limpia | Matilde- Don Justo-Enriqueta | 7,867 | 4,274 | 19.289 |
| Casandra | Doña Juana-Casandra- Clementina | 7,846 | 0 | 17.903 |
| Doña Rosita la soltera | Ama-Rosita-Tía | 6,770 | 0 | 10.335 |
| La casa de Bernarda Alba | Poncia -Bernarda-Adela | 5,945 | 0 | 10.060 |
| Doña Perfecta | Doña Perfecta -Pepe Rey-María Remedios | 5,667 | 3,844 | 16.212 |
| Yerma | Yerma -Juan -Lavanderas | 4,921 | 1,105 | 8.863 |
| Bodas de sangre | Madre-Novia- Criada | 4,486 | 0 | 9.943 |
| Juan José | Juan José- Rosa -Isidra | 3,977 | 5,470 | 15.680 |
| La zapatera prodigiosa | Zapatera-Zapatero-Niño | 3,430 | 2,869 | 7.708 |
| Divinas Palabras | Mari-Gaila-Perdo Gailo- Marica del Reino | 3,358 | 1,637 | 10.872 |
| Fedra | Fedra -Pedro-Hipolito | 3,182 | 3,410 | 8.138 |
| Teresa | Teresa-Fernando -Roque | 3,040 | 3,409 | 7.270 |
| A fuerza de arrastrarse | Plácido -Marqués Retamosa-Josefina | 2,406 | 9,567 | 20.204 |
| El refugio | Timoteo -Paco-Horacio | 2,133 | 6,278 | 18.590 |
| La venganza de Atabualpa | Bartolomé Rivera- Francisco-Doña Irene | 1,995 | 4,931 | 13.633 |
| La esfinge | Ángel-Eufemia -Joaquín | 1,575 | 7,702 | 12.036 |
| Asclepigenia | Proclo-Asclepigenia -Marino | 1,346 | 3,696 | 5.942 |
| Águila de blasón | Don Juan Manuel Montenegro-Don Galán- Rosita María | 997 | 4,023 | 15.318 |
| Romance de lobos | El Caballero don Juan Manuel Montenegro-Fuso Negro- El pobre de San Lázaro | , | 5,485 | 12.976 |
| La conferencia de Algeciras | Algeciras-Canseco -Jorge | 0 | 2,896 | 3.533 |
| Los pergaminos | Meliton-Nuño- Gonzalo | 0 | 7,956 | 16.665 |
| Cara de Plata | El Caballero don Juan Manuel Montenegro- Cara de Plata-El Abad de Lantañón | 0 | 3,287 | 10.249 |
| Luces de bohemia | Max Estrella- Don Latino de Hispalis-Don Filiberto Redactor | 0 | 5,391 | 12.372 |
| ¡Usted es Ortiz! | Juan Eduardo Pedrote- Mariano-Amaranto Casimiro Ortas | 0 | 8,055 | 16.342 |
| Total |  | 79,743 | 99,097 | 321.538 |



Figure 5. Table and chart showing the amount of text spoken (words) in each play by the three characters with the most speech, female (F) and male (M). The rows represent the number of works spoken by female (ruddy) and male (blue) characters. The label on the right is the total number of words spoken.in the play
characters-we have created a third array based on the value for degree centrality retrieved from Shiny DraCor, which specifies the gender of each of those characters. The data are shown in Fig. 7.

In the first four works-La venganza de Atahualpa and Asclepigenia, by Valera; Teresa, by Clarín and Juan José, by Dicenta-the most interactive characters are men, compared to the last five works, all by García

Male and female spoken text (words) by author


Figure 6. Scatterplot with relationship between amount of male (columns) and female (rows) spoken text (number of words) by author


Figure 7. Three best-connected characters (degree centrality) by play in chronological order. The rows represent the number of male (blue) and female (ruddy) characters

Lorca, where women have the most links, with the exception of La zapatera prodigiosa. In between, the roles are intermingled. As such, we find that at least one of the three characters is always female, except in five plays: La conferencia de Algeciras, ;Usted es

Ortiz!, and El refugio, by Muñoz Seca; and Cara de plata and Luces de bohemia, by Valle-Inclán.

This insight is supported by a graph indicating the gender of the three best-connected characters ordered by author (Fig. 8). Thus far, the list of authors who

Three best-connected characters by author


Figure 8. Three principal best-connected characters (according to degree centrality) by author. The $y$-axis represents the total number of male and the $x$-axis of the total number of female characters
afford the most social significance to female characters has comprised García Lorca and Galdós. Now, we can add José de Echegaray to the list, with his plays Mancha que limpia (Don Justo 8, Matilde 8, and Doña Concepción 8) and $A$ fuerza de arrastrarse (Plácido 13, Josefina 12, and Blanca 12). Once again, Unamuno in Fedra and Valle-Inclán in Divinas palabras and Águila de blasón afford relational centrality to Fedra (5) and Eustaquia (5) in the former case; and to Mari-Gaila (28) and Rosa La Tatula (28), together with Sabelita (30) and Doña Rosita (28) in the second case. For Muñoz Seca and Dicenta, the predominance of male agency is evident. It is worth highlighting the importance of women that surfaces once again in Mancha que limpia, Fedra, and Divinas palabras. While these plays are very different from one another, they stand out in this regard as part of the playwriting of Echegaray, Unamuno and Valle-Inclán, three of the least recent playwrights, chronologically speaking.
In order to explore the level of participation of women in the social relationships in each play, we will now turn to the scores for betweenness centrality. These data can also be obtained from Shiny DraCor, under 'Vertices', after entering the relevant information in terms of corpus, author and work, selected from the menu on the left of the screen. This metric captures how a node acts as a bridge between the rest
of the nodes. In most of the cases considered here, the results are like those already analysed by reference to the scores for degree centrality. Thus, the following plays feature women as the top intermediaries between other protagonists: Electra (Electra 26.01), Casandra (Clementina (13.69), Fedra (Fedra and her nursemaid, Eustaquia, 1.38), and Doña Perfecta-all by Galdós; Águila de blasón and Divinas palabras, by Valle Inclán and, of course, the five dramas by Lorca.
In Doña Perfecta, the title character, a noble widow, relates with the same number of characters as María Remedios (fourteen each), yet the latter, a peasant widow, shows greater betweenness than her lady, as the data reveals: Remedios (20.32) compared to Doña Perfecta (11.71). In La casa de Bernarda Alba, a high level of betweenness is also noted for the Housemaid (17), compared to Bernarda's daughters, Poncia and Adela (5.64), who both scored exactly the same in terms of interaction. In Águila de blasón, the intermediary power of Sabelita (767.88) and Doña Rosita (691.56) is evident, but the high betweenness score for Liberata La Blanca (352.66), a poor miller mistreated and abused by Don Pedrito, may be somewhat unexpected. Similarly, the data confirm the prominence of women in Divinas palabras given the betweenness of Mari-Gaila, the sacristan's wife (138.32) and of Tatula, the beggarwoman (132.55), yet Mari-Gaila's
sister-in-law, Marica del Reino (69.53), takes the third spot. As a side note, in Luces de bohemia, Rubén Darío (153) also stands out in this respect, although he is not a female character.

## 6. Discussion

Following the quantitative analysis conducted, some interesting conclusions may now be drawn. First, we can see that the creators of theatre at the end of the 19th century and first third of the last century were only just beginning to reflect a new society with a significant role for women in their plays. In a theatrical regime that includes professional actresses, whose social prestige is also growing, and where we find companies run by women, one would expect growing female prominence on stage. Based on the data provided by the Spanish Drama Corpus, we can only speak of the predominance of women, in absolute terms, in Lorca's playwriting. This may be explained, in part, by the connection between the playwright and the actress Margarita Xirgu, who was the muse of several of his plays. In second place, we find two of the three plays in the corpus-Electra and Cassandra-by Galdós, an author who was able to capture the world of women of his time in both his novels and his plays, through elements of psychology and realism. For other authors, the balance tilts towards men in terms of both the number of characters on stage and their speech count or amount of language-based interaction.

Regarding the distribution of characters on stage (RQ 1), male characters prevail in almost all analysed works. The proportion of male characters is more than 77 per cent in Unamuno's works ( $\mathrm{M}=21 ; \mathrm{F}=6$ ), 70 per cent for Echegaray ( $\mathrm{M}=17 ; \mathrm{F}=6, \mathrm{UND}=1$ ), around 60 per cent in Valera's works ( $\mathrm{M}=12 ; \mathrm{F}=7$, $\mathrm{UND}=1)$, Muños Seca $(\mathrm{M}=42 ; \mathrm{F}=24, \mathrm{UND}=3)$, Valle-Inclán ( $\mathrm{M}=153 ; \mathrm{F}=74$, UND $=28$ ), Dicenta ( 62 per cent, $M=10 ; F=4, U N D=2$ ), Pérez Galdós ( 57 per cent), and Clarín ( 55 per cent). Statistically speaking, only Lorca's works reflect a prevalence of women ( 61 per cent, $\mathrm{F}=58 ; \mathrm{M}=25, \mathrm{UND}=11$ ), which could be interpreted as a prelude to the process of emancipation for Spanish women. ${ }^{5}$ Similar propor-tions-taking account of the nuances noted aboveare observed in the amount of dialogue (RQ 2) and the centrality of the characters (RQ 3).

Although there is generally no significant increase in the number of women on stage, except for Galdós and Echegaray, a turning point may have come from the work of García Lorca, the youngest playwright and therefore the one with the latest theatrical works among the playwrights analysed. His dramas represent a climax in terms of the leading role of women, since their participation in theatre constitutes a complete
turnaround with respect to their predecessors: women not only double the number of men on stage ( 58 against 25 ), but they also have a significantly increased amount of speech and textual interaction with other characters. Although this statement is not a finding as such, it does numerically justify studies on the new female typologies introduced on stage (Armas 1986; Aguilar 2019; Gámez García 2019). The use of a chorus, often made up of female voices, is also significant in García Lorca's works.

Nevertheless, these numerical results require an indepth study of the theatrical climate surrounding each author and play, since the data extracted must be seen in context. The methodology of social network analysis examines the importance of characters with regard to the amount of language-based interaction between them, but not to the content of their speech, nor the whole complexity of the literary text or theatrical language. In other words, quantitative results need to be verified through qualitative analysis and traditional textual criticism for a more nuanced understanding. Meanwhile, the data on Clarín are not particularly representative in this case, as it is based on only one stage play, Teresa. Although a staple piece in the author's collection of dramatic works, in his other two prominent theatrical texts a male stage predominates: in Juan Martín by 60 per cent, and in Tres en una by 100 per cent. A noteworthy peculiarity of both Clarín and Muñoz Seca is that both playwrights list women at the beginning of the dramatis personae, possibly in accordance with the tradition of 'courtesy' in the social customs of the time, whereby ladies were always first, both when passing through a door and in this kind of cast list, which was usually more common in comedies than in dramas or tragedies, and always in line with the preferences of each author.

We should also not lose sight of other reasons that may have led playwrights to opt for the prevalence of male characters, be they formal or plot related. In Muñoz Seca's case, the markedly masculine world in his plays is likely because they are comedies. The difference between drama and comedy in terms of the cast being dominated by one gender or another is a topic for another, more detailed study, requiring a broader corpus for each genre. Dicenta, meanwhile, is known for the heavy political content of his dramatic works, which may explain the prominence of men over women in his plays. In this context, Echegaray and Unamuno construct strong female protagonists, even though they are amidst male-dominated spaces which entail a male-dominated stage. The markedly masculine, male-dominated world in Valle-Inclán's plays may be due, in part, to the grotesque and Esperpento-esque nature of his critique of the decadence of society and human beings, whereby the image
of the hero, a role traditionally held by men, is utterly parodied through a deformed, specular concept of reality offered to us by the Galician author. In this degraded context, it is noteworthy that women are in a significant minority, apart from Divinas palabras, where there are two more female characters than male characters.
Moreover, it is precisely in Valle-Inclán's texts that we find a greater number of 'undefined' characters in terms of gender (28), for example, 'A Voice in the Shadows', 'Distant Voices', 'Faraway Voice', 'Cat', 'Dog', 'The Dogs', 'A Parrot', 'The Pay-Pay Chicken', 'Muddle of Voices', 'An Anonymous Toad Chirping in the Night', 'A Finale of Youthful Shrieking and Squawking', etc., mirroring the dehumanization of individual and community life at the time, to which we referred above. Furthermore, those who have studied the female characters in his plays from a gender perspective, specifically in Comedias bárbaras (Gangon 2015), claim that it is precisely women who can shake the decadent patriarchy:

Gender relations in the play thus considered, ValleInclán seems to have understood that women bear the weight of the patriarchy and machismo on their shoulders by accepting and recreating their situations. Valle has illustrated how it is the victims who bear the responsibility, and how these victims can break their victimhood by granting themselves their own female subject-position (81) [Translated from Spanish].

## 7. Conclusions

It is now important to ask ourselves whether this analysis has answered the three questions we asked at the beginning. Regarding the first question on the proportion of women and men on stage expressed numerically, as already mentioned, women prevail in the works of only two of the nine authors studied. Even so, this is interesting in comparison with other corpora included in DraCor from other periods, such as that of Calderón-M: 2188 and F: 1131-the corpus on Old Latin works-M: 278 and F: 104-; or that of Shakespeare-M: 797 and F: 116-where the difference between genders is greater, with at least twice as many male characters as female characters. The same can be said for corpora in other languages. However, more detailed analysis is needed in that respect, since the German corpus, for example, contains works spanning from 1500 to 1940 , meaning the comparative data on gender (M: 10,256 and F: 2,958) are not conclusive. Nevertheless, the data already imply a more balanced proportion in the corpus of Spanish Silver

Age plays under analysis in this article (M: 331 and F: 226).
The second question on whether speech from female characters prevails, in quantitative terms, over that of male characters, leads us to the answer that it is still generally men who utter the most text in the twentyfive works studied. However, the fact that several of them feature women among the three characters who speak the most, and that we even have one-La casa de Bernarda Alba-with a cast of women only, shows a certain upward trend. Moreover, their absence in some cases is due to the scarce political presence of women, which entails their non-appearance or lack of importance in some of the plays such as Dicenta's Juan José or Pedro Muñoz Seca's La conferencia de Algeciras. For the sake of verisimilitude, women are only given power behind closed doors, like Bernarda or Doña Perfecta in their respective plays, but not in the political forum, where women had barely stepped foot in those years. In further studies, the data of several interventions by gender can be completed with those who talks most often.
Thirdly, with respect to the third question-which characters are best connected and have greater influence on the plot when interacting with others?-once again we find that, in most of the works, the author shows a clear preference towards female characters, such as García Lorca and Pérez Galdós. The quantitative data provided also reveal that even for authors who prefer male characters, the woman acts as a link between several characters and interacts in multiple scenes, indicating her importance for the structure of the plot of plays such as Divinas palabras by Ramón del Valle-Inclán.
While considering the concerns mentioned above, plus other limitations concerning the chosen corpus (it does not yet include the complete works of the authors represented, nor dramatic texts by female authors), we consider that this study reaffirms the potential of quantitative analysis to support traditional approaches to theatrical works of the Silver Age from a gender perspective. Although this is just a first step in exploring the role of women in theatre, requiring further refined, in-depth study, it has the potential to enrich our knowledge with new elements and digital humanities tools that either support or challenge understandings of traditional criticism.

As for the quantitative method for determining who holds prominence on stage, this can be expressed in different ways-not just regarding the presence of a character in the various scenes or the length of his or her speech-and requires different metrics. This benefits the study of women's roles and their more complex theatrical agency. The use of dynamic social networks (DSN), for example,would make it possible to
pinpoint when such prominence escalates and when it drops, and thus to consider on what it depends, or with which factors it interrelates.

Tracing the impact all these different factors had on the depiction of gender on a macro-numerical scale will help us take a first step toward identifying where the levers of influence resided when it came to pushing for (and accepting) more female presence and protagonism in public entertainments and more broadly popular cultures of early modern Europe (Amelang 2019: 127).

It is true that social network analysis does not consider aspects such as those characters with little or no spoken text, who may be key to the dramatic conflict, as may be the case of 'Eleuteria's Shadow' in Benito Pérez Galdós' Electra. This relevance could only be determined through an analysis of the content of speech, instead of merely quantitative data on the number of words uttered. Hence the clear need to combine it with semantic analysis of locutions based on word frequency, in order to identify the topics they deal with or the differences in the vocabulary used. However, as an interpretative framework, it makes it possible to have quantifiable textual 'data' and to highlight new elements, for example, the high betweenness centrality of some apparently secondary female characters, such as María Remedios in Doña Perfecta, the Housemaid in La casa de Bernarda Alba and Liberata La Blanca or Marica del Reino in Valle-Inclán's Divinas palabras. This information is certainly illuminating, as these are all characters from a low social background, yet their interaction stands out from other female characters who have a higher social status.

On the other hand, beyond pointing out the need for future studies on the different ways in which characters are arranged within the dramatis personae, or on the peculiarities of the female characters in the works of Galdós compared to those of García Lorca, it would be highly useful to broaden the corpus analysed in order to extend this quantitative study to the entire collection of dramatic works of the authors discussed, as soon as the digital corpus of their texts allows it. Furthermore, it is also relevant to contribute to a subsequent investigation the number of interventions carried out by each character and compare it with the data provided in this article. As well as studying in greater depth and from a more qualitative point of view the times that a character questions or speaks directly with another, regardless of the occasions in which they share the scene, since not always the fact that they appear together corresponds to the interrelation between both characters.

Finally, another area of research worth pursuing would be the degree of female presence in plays written by men compared to those written by women. To this end, the Spanish Drama Corpus would need to include works by Spanish female playwrights of this periodwhose works remain unregulated by authorship rights and thus could also be available in XML-TEI formatsuch as Emilia Pardo Bazán, Rosario Acuña, Emilia Calé y Torres de Quintero, María del Pilar Contreras de Rodríguez, Carolina Coronado, Carmen Díaz de Mendoza y Aguado, Narcisa Freixas, Joaquina García Balmaseda de González, Mercedes Velilla Rodríguez, etc. Undoubtedly, such comparative analysis using the three quantitative metrics provided in this article could offer very interesting results and challenge some of the conclusions of literary criticism on dramatic works.

In closing, this study is intended as a sample to encourage further research that explores other ways of measuring the prominence of characters from a gender perspective, using digital humanities methods. It could be, for example, a qualitative exploration which would consider the social status or profession of the female characters, going beyond the analysis of their presence and the extent of their speech. This would allow for a greater understanding of dramatic texts from other periods or written in other languages and would also help to answer questions that can only be answered with open, digital, and transferable data.

## Author contributions

Monika Dabrowska (Conceptualization, Investigation, Methodology, Project administration, Visualization, and Writing-original draft), María Teresa Santa María Fernández (Data curation, Formal analysis, Writingoriginal draft, and Writing-review \& editing)

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## Notes

1. The exact time frame of this period, particularly when it began, varies according to the author. Martínez Cuadro and Artola (1973) believe the period began with the Revolution of 1868 and ended with the Spanish Civil War in 1936. Ubieto, Reglá and Jover (1963) define the period as 1875-1936. Mainer (1981) postpones the beginning to the year 1902 and extends the period until the end of the war.
2. On the genre of the chorus as a character, a comparison was made between three Greek tragedies by Sophocles, Euripides, and Aeschylus, and three dramas by García Lorca and ValleInclán (Santa María and Dabrowska 2023).
3. The corpus available at the time of writing contains twenty-five dramatic texts and is in the process of being expanded. The study here has been limited to male authors, to be later compared with female-written works from the same period.
4. We use the terms 'central' and 'main' synonymously in this article to refer to characters that score higher than the rest in some of the established metrics.
5. For the social concept of 'modern woman', the incipient emancipation of women in Spain and its relationship with the Spanish literary period known as the 'Silver Age', we refer to the research of Romero (2021) and Ena Bordonada (2021). On the emancipation of women in Spain in the first quarter of the twentieth century, see Otero and Rodríguez (2022).

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