

Evaluating Network Analysis in Drama: A Gold-Standard Assessment of Scenic Co-Presence

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The use of network analysis for drama research was popularized by Solomon Marcus (1973) in the 1970s. As part of a disparate movement called “Mathematical Drama Analysis,” it sought to interpret dramatic texts merely based on their character constellations and the mathematical metrics that could be derived from them (Marcus 1973, 289–91). Changes in the character constellation can be represented as a binary matrix that maps the characters to the scenes they appear in. This matrix, in turn, can be used to represent the play as a co-occurrence network of the characters. Since Moretti’s (2013) re-introduction of this method into literary studies in the early 2010s, it has become one of the central methods within digital drama research (Escobar Varela, 2021). Although the method seems straightforward and almost commonplace to practitioners within the Digital Humanities, it relies on some unclear principles. According to Marcus and others, what the binary matrix tracks is the interaction of characters in scenes, with scenes being the segments between entrances and/or exits. Relatively early on, Draxler had already pointed out the lack of terminological specificity in this approach (1988, p. 11–14). Thus, at least three key components of this form of dramatic network analysis remain undertheorized:

1. What constitutes an exit or entrance—is a character hiding, sleeping or dead on stage still present?
2. In certain ambiguous cases, what constitutes a character—e.g., is the “generic” character identified with the speech prefix “SOLDADO” (Soldier) in the second act of Calderón’s *Afectos de odio y amor* identical with any of the soldiers, e.g., “SOLDADO 1.º” (first soldier), in the third act of the same play?

3. What does it mean for two characters to have an interaction? As for Marcus, interaction is merely co-occurrence on stage, while for Moretti, “[...] two characters are linked if some words have passed between them: an interaction is a speech act.” (2013, p. 214)

To explore how contemporary projects address these issues, this paper examines DraCor, one of the most prominent ongoing digital drama research initiatives (Fischer et al., 2019). DraCor segments plays using act and scene divisions and measures “scenic co-presence,” defined as the co-occurrence of characters with assigned speeches within scenes (Trilcke, 2022, p. 568). This operationalization, though practical for large-scale analysis, relies more on convenience than robust theoretical underpinnings. Thus, while it seems comparable to the approaches of Mathematical Drama Analysis or Moretti’s study, it differs from them in two important aspects. Firstly, it lacks any operational definition of its own segmentation. As act and scene divisions in dramatic texts are historically and culturally contingent—following, among other factors, character constellations, scenery changes or temporal changes (Pfister, 2001, p. 312–318)—they present almost arbitrary segmentations that make any comparability questionable. Secondly, equating speech prefixes with character presence overlooks a myriad of nuances. Characters can be on stage and not speak, off stage and speak, or on stage, speak, but not be heard. Aside from the problematic ableist, classist, and speech-centrist assumption of this approach, it remains unclear what exactly “scenic co-presence” measures. Obviously, scaling up from close reading to distant reading inevitably entails some loss of accuracy. However, understanding and quantifying this “loss” is crucial to ensure that the resulting metrics remain

meaningful. This paper seeks to answer: Are current approaches precise enough to generate reliable and valid insights? To investigate this question, we have created a small gold-standard corpus of roughly 65 plays in English, French, German, and Spanish (1600–1950), in which we have manually encoded all character changes. This gold standard allows us to assess the precision and validity of the classic operationalization employed, for example, by DraCor along key network metrics (e.g., degree, closeness centrality, betweenness centrality) and other drama metrics (e.g., soliloquy count, final position, *liaison des scènes*). This analysis highlights critical trade-offs between operational convenience and methodological rigor. Ultimately, we aim to offer insights into improving network analysis for drama research and refining the balance between scalability and accuracy in digital humanities methodologies.

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