

Modeling Absence: Digital Text Analysis and Sexual Violence in Shakespeare's Drama

Thank you to the Digital Scholarship Commons for hosting this conversation today and to Jentery Sayers for his incredible generosity in putting together this event and helping coordinate my visit. I also want to offer a warning note upfront that several of my opening slide images are quite graphic.

My digital humanities research focuses on how women's bodies are represented and managed in early modern literature (England 1500-1700). I came to digital methods as a graduate student looking for a better way to think about the relationship between what has long been considered violent language towards women's bodies and the physical impacts of that violent language. The work I'm sharing with you today is in-progress research that builds on recent feminist critiques of digital text analysis. More specifically, this work stems from my assertion that violence against women's bodies in early modern drama reveals fundamental *problems* with computational text analysis practices.

I want to begin today's talk with an example that will be familiar to many, certainly to any early modernists in the room. Halfway through William Shakespeare's *Titus Andronicus*, one of the play's central characters goes silent. According to the stage direction [SLIDE 2], Lavinia, Titus's daughter, enters the stage at the end of Act 2, "her hands cut off and her tongue cut out, and ravished."¹ Lavinia has been raped offstage by Chiron and Demetrius, sons of the Goth Queen, Tamora, who have announced and outlined their plan for the audience to hear. They drag Lavinia offstage in the previous scene and then she re-enters (about 100 lines later) without hands and tongue, goaded by Chiron and Demetrius who say things like "go tell...if thy tongue can speak" (2.4.1). Lavinia's mutilated body haunts the stage for five subsequent scenes as she struggles to communicate her experience and her trauma without tongue or hands. Her male

kin—father Titus, uncle Marcus, and brother Lucius—talk about and around her, trying to decipher her hand signals and body language until Titus finally kills her in Act 5.

Lavinia has become somewhat of an emblem for the pervasive absence of rape in early modern drama. She is a uniquely visible presence for a phenomenon “spectacularly missing” among what early modern scholar Kim Solga calls the period’s “vivid, grotesque representations of bodies, blood, and revenge.”² The problem of staging sexual violence is twofold, related to both visual and verbal modes of representation. Visually, rape is an act that erases its own evidence; the violence occurs within a woman’s body, sealed off from the realm of the visible and, consequently, resistant to the visual spectacle so central to much of early modern theater. Here are some examples of how contemporary directors have “visualized” Lavinia’s trauma in performance. First, [SLIDE 3] the 1955 Royal Shakespeare Company production of *Titus*, directed by Peter Brooks with Vivien Leigh as Lavinia. Second, [SLIDE 4] 2012 Utah Shakespeare Festival production, directed by Henry Woronicz with Melisa Pereyra as Lavinia. And, finally, [SLIDE 5] the 2014 Globe Theatre production, directed by Lucy Bailey with Flora Spencer-Longhurst as Lavinia. This final portrayal is undoubtedly the most disturbing—in fact, reviews of this production note audience members fainting almost every night at Lavinia’s entrance. Lavinia is unusual in the early modern dramatic archive because she has these mutilating marks of her rape experience—she has wounds that can be visualized and spectacularized, even though the rape itself occurs offstage. But, of course, the violence done to her body that we can see—her missing hands and tongue—can only ever stand in for the rape. Her missing body parts become a “metaphor and metonymy,” Coppélia Kahn famously notes, for the “hidden, adjacent wound of rape.”³

Semantically, too, rape defies articulation and representation. There are a lot of euphemisms (or certainly alternative terms) for rape in early modern drama—even here [SLIDE 6] the stage direction from the First Folio refers to Lavinia as “ravished.” *Titus* also uses this word when he later asks Lavinia about her experience [SLIDE 7]:

Lavinia, wert thou thus **surprised**, sweet girl,
Ravished and **wronged** as Philomela was,
Forced in the ruthless, vast, and gloomy woods? (4.1.53-55)

Here we get “surprised,” “ravished,” “wronged,” and “forced”—all euphemisms to describe what actually happened to Lavinia. And of course, most crucially, Lavinia herself is unable to give voice to her experience. It’s worth noting, too, that discourse surrounding rape in early modern was particularly limited, in part because it wasn’t proper to talk at any length about women’s bodies. This is especially true for female rape victims because, as Laura Gowing reminds us [SLIDE 8], “the plausibility of words depended on reputation, and a woman who had been raped had already...lost her reputation with her chastity.”⁴

Consequently, the history of rape is a remarkably absent presence within the early modern archive, and it is precisely this status of “absent presence” that becomes so conspicuous in Shakespeare’s *Titus Andronicus*. After Act 2, Lavinia exists outside of the play’s language because of her severed tongue, and yet she remains hyper-present on stage and central to her family’s revenge plot. Lavinia’s male kin spend Acts 2 and 3 attempting to read her body for signs of her experience. But her mutilated figure, so difficult to watch and so consistently present on stage, calls our attention to the inadequacy of their reading and, thus, the inadequacy of the play’s *language* as a representation of her trauma.

I begin with the example of Lavinia, to which I will return, because her figure makes palpable the unsettling disjunction between traumatized body and inadequate, or absent,

language. This precise disjunction motivates my turn to the alternative modes of reading and analysis offered by digital practice. Using *Titus* as my starting point, my central question for today's discussion is: how can digital text analysis methods—topic modeling, in particular—help reveal or mark absence? Topic modeling, for those unfamiliar, is a form of machine reading used to discover “latent patterns in large collections of text.”⁵ In order to generate those latent patterns, topic modeling algorithms are built on the assumption of semantic presence—in other words, even though we're looking for *latent* patterns here, topic modeling is based on evidence contained within language. At first glance, then, this digital practice—and, we might extrapolate, digital text analysis tools more broadly—seem to hold little promise for measuring sexual violence, predominantly absent in the language of my literary archive.

My research, however, aims to recalibrate our approach to topic modeling—to think about this digital text analysis method as a structural rather than semantic approach to a corpus. And here I'm defining structural feature of the text as a component that exists outside of the text's language but has a palpable effect on that language—like the character of Lavinia, like much of the offstage sexual violence that occurs in early modern drama. As I unpack this alternative approach to topic modeling, this talk considers the following questions [SLIDE 9]: How might we read topic modeling results for absence rather than presence? What can topic modeling reveal about the latent, yet hyper-present, figure of Lavinia and her relationship to the language of *Titus Andronicus*? And, most broadly, can topic modeling provide a way to mark, make legible, or trace the effort of absenting sexual violence in early modern drama? I'm going to first briefly unpack the process of topic modeling (with a lot of hand waving over the details because for today's purposes I really want to foreground the critical implications), and then I'll turn back to *Titus* and do some granular comparative analysis based on the topic model in order

to trace the shift I want to demonstrate from semantic to structural—really, we might think of it as a shift from *semantic* to *somatic*, in the sense that my approach to topic modeling aims to draw out the way bodies on stage effect the language around them. Finally, I'll close with some new project developments and some future plans for the research.

Topic Modeling

David Blei, one of the first to think about topic modeling's promise for the humanities, introduces topic modeling as an advanced form of information retrieval—[SLIDE 10] “an algorithmic solution to managing, organizing, and annotating large archives of texts.”⁶ A topic modeling algorithm approaches a set of documents with the assumption that each document has been produced from a limited, but very large, set of available words. A set of documents might be, for example, all the articles of a newspaper's print run [SLIDE 11: Robert Nelson's *Mining the Dispatch* project, uses topic modeling to trace the social and political climates of Richmond during the American Civil War]; all the issues of *PMLA* from 1890 to the present [SLIDE 12: Ted Underwood and Andrew Goldstone, using topic modeling of *PMLA* to map “history of literary scholarship”]; or, the set of documents that I'm going to focus on today—all of the scenes in Shakespeare's dramatic corpus. Based on probabilities generated from each scan through the documents, the algorithm sorts words that frequently co-occur, and finally generates lists, or “topics,” of those co-occurring words.⁷ If one is familiar with the set of documents, some topics will seem fairly intuitive. Topic modeling Shakespeare's dramatic works, for instance [SLIDE 13], produces topics on kingship, love, and death, as one might expect given the mix of history, comedy, and tragedy plays in his corpus.

Of course, this begs the question: if topic modeling is essentially keyword sorting, why is it useful, particularly for the kinds of questions humanists ask? Since topic modeling's

introduction into digital humanities work, one of the most significant debates on this method surrounds how to interpret and “read” topic modeling data—that is, what does topic modeling actually demonstrate? In response to this question, Lisa Rhody, Ted Underwood, and Benjamin Schmidt in particular have increasingly pushed topic modeling beyond its information retrieval origins by exploring how poetic language essentially breaks topic modeling algorithms. As Rhody explains [SLIDE 14], “figurative language resists thematic assignments,” so topic modeling holds promise for literary analysis precisely because new questions and discoveries emerge in the space where topic modeling fails. Instead of keywords and thematic patterns, then, Rhody and Underwood have started to think about topic modeling output as “forms of discourse”—a way to map, in Underwood’s words, “the discursive contours of a collection” of texts. My work on early modern drama is directly in conversation with the kind of exploratory topic modeling practices Rhody, Underwood, and Schmidt have developed, but their work continues to employ topic modeling as a measure of semantic presence—the topics are less intuitive, but we’re still talking about interpretations based on the language. To put it differently, up to this point, topic modeling practices have resisted one of the most fundamental tenets of feminist methodology: the imperative to read absence alongside presence, to explore what becomes legible in the margins alongside dominant discursive systems.

Shifting our approach to topic modeling begins at the level of corpus and document preparation—how a corpus gets divided in preparation for topic modeling (a process referred to as “chunking”). The initial corpus I’m going to talk about today, as I’ve mentioned, is comprised of every Shakespeare play included in the 1623 first folio, and I’ve divided each play by scene according to the divisions in the Folger Digital Texts project, resulting in a total of 723 documents (which, it’s worth noting, is quite small for a topic modeling project—there are

implications here for how my work engages with methods of “distant reading,” and I’d be happy to talk more about that in the Q&A). We know from traditional close reading practices that different critical questions require different levels of granularity when we look at a text. So, reading *Hamlet* to think about how it fits into the genre of tragedy; reading *Hamlet* to examine how the ghost of Hamlet’s father functions in the play; reading *Hamlet* to track how Ophelia’s madness inherently resists language. Dividing the plays by scene in preparation for topic modeling consequently increases the level of granularity with which the algorithm “reads” these texts—and this makes the small proportion of language related to sexual violence more legible among the din. I’m not interested in topic modeling Shakespeare’s dramatic corpus to sort for large-scale language patterns—my aim is to see if topic modeling can register the particularly violent ways female bodies are handled in these plays, even if that violence is not explicit at the semantic register. Prepping the corpus in this way, then, helps make more legible the structural rather than simply semantic features of the plays.

Titus Andronicus

Now we can come back to *Titus* to see this scene-breakdown work in action and what it helps reveal. [SLIDE 15] This graph charts the topic breakdown across Titus’s fourteen scenes, and we can see that most of the play falls within Topics 22 (blue) and 31 (purple). Given this dominant pattern, the scenes that do not cluster with the rest of the play—2.1, 2.2, and 2.4—become especially striking. One of these outlier scenes is Act 2, Scene 4—the scene I began with, in which Lavinia enters after being raped offstage. This table here [SLIDE 16] shows the word clusters for the play’s dominant topics (Topics 22 and 31) alongside the top topic for this scene (Topic 32). For those familiar with *Titus*, Topics 22 and 31 will probably seem consistent with the play’s central themes—we see language related to unstable power relations, family

dynamics, and revenge. Topic 32, however, is less clearly related to the play's themes, and the cluster of words lacks a coherent pattern even within itself. Lisa Rhody calls topics like this “semantically opaque,” but I also like thinking about these topics in terms of illegibility (literally, difficult or impossible to *read*), partly because *Titus*, and Shakespeare's plays more generally, are so centrally concerned with reading. Topic 32 presents us with an illegible semantic pattern. In computer science terms, these topics are often deemed “junk topics” [SLIDE 17]—they prove that the algorithm is off because words aren't clustering thematically as they should. Even within digital humanities topic modeling work, scholars tend to base arguments on topics that do nicely cohere. But, what's especially significant here is how this semantically illegible topic marks a moment in the play where language spectacularly fails, and so we come up against two registers of incoherence—one at the level of the digital output, and one at the level of the original text.

When Lavinia enters the stage after being raped [SLIDE 18], she encounters her uncle Marcus. In response to her traumatized and mutilated figure, Marcus gives one of the most infamous monologues in all of Shakespeare's work. What makes Marcus's response so problematic is the gross disjunction between his high rhetorical style and the visible presence of Lavinia's bleeding body on stage. Marcus begins by urging Lavinia to speak, and then continues thus (I'll just read the first few lines here):

Speak, gentle niece, what stern ungentle hands
Have lopp'd and hew'd and made thy body bare
Of her two branches, those sweet ornaments,
Whose circling shadows kings have sought to sleep in,
And might not gain so great a happiness
As half thy love? Why dost not speak to me?

Marcus's language here is largely metaphorical, comparing Lavinia's current, mutilated body to her former, exemplary beauty. He goes on to mourn her “lily hands,” her “pretty fingers,” and her “sweet tongue,” and the disconnect between his language and Lavinia's body is so jarring

and grotesque that the scene is sometimes read as a kind of savage farce. It is precisely because of this disconnect, though, that this scene serves as a useful model for my argument. Lavinia's exposed and bleeding body turns this scene into a fleshly spectacle, while Marcus's words seem hollow and euphemistic, an absurdly poor substitute for her trauma. Lavinia herself has been silenced, but as Marcus talks about her body, her *somatic* (rather than *semantic*) presence haunts his inadequate language.

When we compare the words in Marcus's lines to the top words in Topic 32, the language of this short scene (57 lines) does not correspond neatly with those top words (and you can see them along the right of the slide here). *Kill'd*, *kill*, *deed*, and *dreadful* do not show up in the scene. *Sight*, *blind*, and *blood* do, but *bloody* does not. Such incongruity brings us back to the question of what it is that topic modeling actually produces. In part, the incongruity suggests that a topic functions more like a "discourse" than a neatly thematic word cluster, as Underwood and Rhody have suggested. More crucially for my argument, though, the incongruity between topic and scene here echoes the "clash of eye and ear" that makes this scene so grotesquely violent.⁸ This semantically illegible topic gestures toward a discourse not entirely verbal or textual—a discourse that teems beneath or works around the actual language on the page. If the scene's collision of language and body produces a violence not within Marcus's rhetoric but in the work of that rhetoric as a response to and alongside of Lavinia's bleeding body,⁹ this seemingly jumbled topic becomes a marker of that non-semantic violence.

Given the disconnect between the words in Topic 32 and the language of this scene, we can turn to the topic itself and the scenes that dominate the topic to bolster this reading. Shifting out of the immediate context of *Titus* [SLIDE 19], this graph charts the proportion of Topic 32 in scenes across the larger corpus (all of Shakespeare's plays). The top scenes in Topic 32 are

Hamlet 4.1 and *Richard III* 4.3 (circled in red is the *Titus* scene I've been discussing), both very short scenes with a similar plot structure: one character reports a murder to another character. I'm going to provide just a brief description of these scenes for those unfamiliar—we'll worry less about character names, it's the core structure of the scene I'm interested in drawing attention to. In *Hamlet* 4.1 [SLIDE 20], Gertrude reports to Claudius that Hamlet has killed Polonius. A witness to Hamlet's murderous act, Gertrude begins the scene by exclaiming, "what have I seen tonight!" (4.1.4).¹⁰ Unlike in *Titus* where, remember, Lavinia's rape takes place offstage, in *Hamlet* the audience witnesses Hamlet's crime and sees Polonius's stabbed body dragged from behind the curtain. We are witnesses, therefore, to Gertrude's incomplete and inadequate reporting—her words are a weak substitute for the violence we have just witnessed. Alternatively, in *Richard III* 4.3, we get a report of violence that has occurred offstage—the murder of King Edward IV's two young sons [SLIDE 21]. The scene begins with Tyrrel announcing to the audience, "the tyrannous and bloody act is done, / the most arch deed of piteous massacre" (1-2), but the violent act is noticeably absent in the play's onstage action, so here the structure of offstage violence and onstage, mediated translation of that violence is closer to what I've been tracking in *Titus*.

Crucially, these scenes do not include significant similarities on the semantic level (and, frankly, they are very strange bedfellows). Looking at these three scenes together, we don't find the neatly legible keyword overlaps so important for topic modeling as a practice of "information retrieval." The semantic similarities are too minor. Moreover, the three short scenes from *Titus*, *Hamlet*, and *Richard II* sit uneasily within Topic 32 because they contain very few of the top words in the topic. Instead, the links between these scenes is structural. All three scenes contain some measure of violence against vulnerable bodies, and the *Hamlet* and *Richard II* scenes at the

top of the topic [SLIDE 22] draw our attention to the gap between words and violence—what becomes absent when violence is translated into language.

In the *Hamlet* scene, Claudius explicitly urges Gertrude to “translate” what she has seen (4.1.2), and, of course, much of the language in *Titus* 2.4 calls direct attention to Lavinia’s inability to translate. At the scene’s opening, remember, Chiron and Demetrius spend ten lines mocking Lavinia, taunting her to “go tell” (1) and “write down [her] mind” (3). Marcus, too, urges Lavinia to communicate before he discovers her missing tongue: “speak gentle niece” (16) and “why dost not speak to me” (21). Halway through the scene, he shifts his tactic—instead of urging Lavinia to speak, he asks, “shall I speak for thee?” (33). This shift becomes especially significant if we revisit the topic breakdown in *Titus* [SLIDE 23] and recall that 2.4 is the last disruption to the play’s most dominant discursive patterns. In the model I ran, the rest of the play sorts squarely into Topics 22 and 31—the language of Rome, war, and revenge. Marcus’s inquiry—“shall I speak for thee?”—marks a turning point in *Titus*’s language and, more importantly, draws attention to the structural work of each of the three scenes I’ve been comparing. His question is a brutal reminder that none of the victims in these scenes—Lavinia, Polonius, or Edward’s children—can voice their own experience or report on their own trauma. Instead, the trauma is verbalized, translated for them and the plays stage third-party reactions to the trauma. Moreover, this structural pattern emphasizes Lavinia’s unique situation within this cluster of scenes: she is the only victim alive and present onstage during the report and translation process.

In fact, feminist critiques of *Titus* often argue that, after Lavinia’s rape, she is treated as a kind of zombified figure. According to Heather James, for instance, “the play retains Lavinia’s body as a stage prop.” We have already heard how Marcus fills in Lavinia’s missing hands and

tongue with zombified body parts as he laments her “lily hands” and “sweet tongue,” and we can go back again to the top scenes in Topic 32 [SLIDE 24] to consider the structural significance of this treatment. Right next to *Titus* 2.4 here is *Romeo and Juliet* 5.3—this is probably the play’s most famous scene. Juliet appears dead and then wakes up in the Capulet tomb to find a dead Romeo beside her. It’s a scene that includes Romeo’s murder of Tybalt, Romeo’s suicide, and, more crucially for its connection to *Titus*, a dramatization of a zombified female body as Juliet comes back from the “dead.”

There is a remarkable amount of overlap between the language of *R&J* 5.3 and *Titus* 2.4—specifically, the language Romeo uses to describe Juliet’s dead body and the language Marcus uses to describe Lavinia’s raped body. Romeo laments, “death, that hath sucked the honey of they breath” (*R&J* 5.3.92), echoing Marcus’s description of the blood bubbling from Lavinia’s mouth, “rising and falling” with her “honey breath” (2.4.24-5). Romeo also observes, “beauty’s ensign yet / is crimson in thy lips and in thy cheeks” (*R&J* 5.3.94-5), which recalls Marcus’s description of the “crimson river of warm blood” between Lavinia’s lips (2.4.31). So, here, these scenes share semantic patterns but the action doesn’t line up as neatly as we saw in the comparison between *Titus*, *Hamlet*, and *Richard III*. In *Hamlet* and *R3*, like in the *Titus* scene, the characters are reporting on traumatic, bloody events that have occurred. In *R&J*, while we do witness Romeo’s killing of Tybalt, no other character reports on the killing and the majority of the scene focuses on Juliet’s quasi-zombie plot, none of which seems echoed in *Titus* 2.4. The topic model, though, draws our attention to how these scenes function similarly in their treatment of the female body at their centers. Marcus treats Lavinia as if the rape has killed her and the body on stage is a kind of zombie. This is evidence in Marcus’s monologue as he laments her missing body parts—describing the beauty of her tongue and hands as they used to

exist. When Marcus brings Lavinia to Titus in the play's subsequent scene [SLIDE 25], he uses the past tense—"this was thy daughter" (3.1.64)—and Titus has to correct him—"so she is" (3.1.65).

New Developments

I'm going to move on to some concluding thoughts in a moment, but I want to give you a very brief overview of some new developments with this research—and I'd certainly welcome your thoughts about possible future directions in the Q&A. The topic modeling work I've been discussing thus far was done in RStudio, patched together using various publicly available scripts. In the last several months, I've been working with Doug Duhaime, a developer at Yale University's DHLab, to write a Python script for this project and it's already led to some promising new questions. The script Doug is writing is much more robust and stable than the RStudio script and we're fixing some of the nuance problems of the old model—scene length, for instance. Most important, though, there's a different algorithm at the core of the Python script: non-negative matrix factorization (NMF) instead of latent Dirichlet allocation (LDA). While I fully admit to knowing not much at all about what that means for the math behind our modeling process, I can get excited about the new inquiries that emerge from this algorithm shift.

First, on a kind of meta-critical level, this algorithm shift raises important questions about what it means to make an argument based on this work. Jentery Sayers's work has been very influential in prompting us to think about prototyping as a form of inquiry—I'm espousing a similar idea here. The practice of topic modeling itself and the process of interrogating the data it generates *is* the critical work here. The topic model isn't proving anything but, rather, (drawing on feminist discourse) the modeling process helps us think differently about how texts function in proximity to one another—how the language and bodies in one text might work alongside the

language and bodies in another text in ways we haven't yet considered. And that's even more true when we change the algorithm at the core of the digital text analysis practice and find that the critical questions we're asking still have traction. The instability of the digital practice itself becomes a valuable part of the inquiry.

I'll quickly show you what happens to *Titus* in this new model. In the scene breakdown for *Titus* [SLIDE 26], the play now sorts even more fully into one top topic—and that topic, again, looks like what we'd expect for this play. In fact, with the Python model, some of the plays have a particularly strong signal in the output, so we might call this the “Titus” topic in the new model. All of the top scenes in this topic are from *Titus*. But, again, Act 2, Scene 4 is one of the outliers. Act 2, Scene 4 falls into a topic that is much more bodily [SLIDE 27]. We get a cluster of body parts in this topic—hand, heart, tongue, hands—and a lot of second-person pronouns—*thee, thy, thou, thine*. The pronouns showing up alongside the body parts suggest that the semantic pattern at work here is language about another person's body rather than characters talking about their own bodies. The scenes that cluster into this topic include the final scene in *Timon of Athens* and Act 1, Scene 5 of *Coriolanus*, both of which stage the sacking of a city. Also clustered at the top of the topic is *Cymbeline* Act 4, Scene 1, which features a male character dressed in disguise describing to the audience how he's planning to use the disguise to rape his enemy's betrothed.

This new Python script is changing with scenes directly cluster around *Titus* 2.4, but the fact of this scene's continued difference from the rest of the play becomes a useful starting point for thinking about how to do something different with computational text analysis. My approach to topic modeling aims to give Lavinia's trauma shape and legibility in an alternative register—a register that hacks and looks awry at the assumptions of semantic presence on which this text

analysis tool is based. These instances of what is, essentially, a “failure” of the topic model—instances when the topic itself is not particularly “legible” or when a play’s scene clusters into a different topic than the rest of the play—become markers for the coded registers within which sexual violence exists. Not topics, perhaps, but “traces” that help us attend more thoughtfully to the body into our digital practices, drawing attention to the fleshly and the material as a way of extending the digital’s promise for cultural critique.¹¹ If we approach the practice of topic modeling differently, we can be more attuned to how it generates signals for violence and violation that do not perfectly align with our standards of algorithmic viability or legibility. And it seems to me that this kind of hacking (a tech term that has its roots in connotations of “deforming” or “disfiguring”) of some of our most prominent computational text analysis tools can start to address the problems with and limitations of these methods cited in feminist DH critique.

The figure of Lavinia—as an overt absence within the Shakespeare corpus—also encourages us to revisit the idea of “archival absence,” a phrase that’s been consistently central to the practice of digital humanities critique more broadly speaking. By using topic modeling to search for a trace of imprint of rape, I turn to digital methods to help us see things that texts themselves work to conceal, omit, or casualize. This impulse is indebted to and builds on the work Lauren Klein, Jacqueline Wernimont, and Kim Gallon, among others, all of whom offer energizing and illuminating critiques of digital tools and practices. My work, however, does not address “archival absence” in the way, for instance, Klein has used this concept in her work on 19th-century slave narratives. Klein defines “archival silence” as “gaps in the archival record” itself, and then she turns to digital tools to try to make those gaps visible. In approaching sexual violence in Shakespeare’s corpus, or even the broader archive of early modern drama, I engage a

different kind of absence—an absence within the works that comprise some of our most prominent and most accessible digital archives.

Flora Spencer-Longhurst, the actress who played Lavinia in Lucy Bailey’s 2014 Globe Theatre production, had this to say about her experience: “despite my character having her tongue ripped out, it is the most articulate role I have ever played.”¹² What does articulation mean here? And how might we find ways to draw out this alternative form of articulation in our digital approaches to language?

¹ Barbara Mowat, Paul Werstine, Michael Poston, Rebecca Miles, eds., *Titus Andronicus* (Washington: Folger Shakespeare Library), accessed 14 December 2016, www.folgerdigitaltexts.org. All references to *Titus* are from this edition and will be noted by act, scene, and line number in the body of the text.

² Kim Solga, *Violence Against Women in Early Modern Performance: Invisible Acts* (Palgrave MacMillan, 2009), 1.

³ Coppélia Kahn, *Roman Shakespeare: Warriors, Wounds and Women* (Routledge, 2013), 60.

⁴ Laura Gowing, *Common Bodies: Women, Touch and Power in Seventeenth-Century England* (Yale University Press, 2003), 92.

⁵ Lisa M. Rhody, “Topic Modeling and Figurative Language,” *Journal of Digital Humanities* 2, no. 1 (2012).

⁶ David M. Blei, “Probabilistic Topic Models,” *Communications of the ACM* 55, no. 4 (2012), 79. For this essay, I used the RStudio MALLET package, which is based on LDA, and combined elements from R scripts written by Shawn Graham (<https://github.com/shawngraham/R/blob/master/topicmodel.R>) and Matt Jockers. See Jockers, *Text Analysis with R for Students of Literature* (Springer International Publishing, 2014), Chapter 13.

⁷ I refrain from an in-depth explanation of topic modeling and the statistical process behind the algorithms because many excellent introductions for humanists now exist. See Matthew Jockers, “The LDA Buffet is Now Open; or, Latent Dirichlet Allocation for English Majors,” *Matthew L. Jockers* (blog), September 29, 2011, <http://www.matthewjockers.net/2011/09/29/the-lda-buffet-is-now-open-or-latent-dirichlet-allocation-for-english-majors/>; Rhody, “Figurative Language,”; Ted Underwood, “Topic Modeling Made Just Simple Enough,” *The Stone and the Shell* (blog), April 7, 2012, <https://tedunderwood.com/2012/04/07/topic-modeling-made-just-simple-enough/>; and Scott Weingart, “Topic Modeling for Humanists: A Guided Tour,” *The Scottbot Irregular* (blog), July 25, 2012, <http://www.scottbot.net/HIAL/index.html@p=19113.html>.

⁸ Mullaney 74.

⁹ Heather James, *Shakespeare's Troy: Drama, Politics, and the Translation of Empire* (Cambridge University Press, 2007), 61

¹⁰ Barbara Mowat, Paul Werstine, Michael Poston, Rebecca Miles, eds., *Hamlet* (Washington: Folger Shakespeare Library), accessed 14 December 2016, www.folgerdigitaltexts.org. All references to *Hamlet* are from this edition and will be noted by act, scene, and line number in the body of the text.

¹¹ Alan Lui, "Where is Cultural Criticism in the Digital Humanities?" in *Debates in the Digital Humanities*, edited by Matthew K. Gold (University of Minnesota Press, 2012), 490-509.

¹² *Daily Mail*, April 30, 2014.