Authorship Attribution and the Material Realities of Early Modern Play Texts

ABSTRACT

The digitization of texts and the advent of big data analyses have transformed our understanding of authorship and collaboration in early modern drama. However, this progress ought to be carefully contextualized within the material realities of early modern playwriting. The scarcity of surviving dramatic manuscripts underscores the significant role of agents like compositors, printers and editors, and the loss of the majority of plays from English commercial theatres casts doubt on the reliability of comparisons based on unique or common verbal parallels. The article focuses on drama from the Elizabethan and Jacobean periods, particularly the recently proposed collaboration between Christopher Marlowe and William Shakespeare on the Henry VI plays. Applying the IT concept of GIGO (garbage in, garbage out), it highlights the impact of textual transmission intricacies on authorship attribution, emphasizing that even the most sophisticated attribution techniques are only as reliable as the (often unreliable) data they utilize.

Keywords: authorship, Christopher Marlowe, William Shakespeare, textual transmission, material texts, stylometry, GIGO

Ugotavljanje avtorstva in materialnost zgodnjenovoveških dramskih besedil

IZVLEČEK

Digitalizacija besedil in analiza velikih količin podatkov močno vplivata na naše razumevanje avtorstva in soavtorstva zgodnjenovoveške dramatike. Ob izjemnem razvoju, ki ga to prinaša, pa je treba upoštevati tudi materialne danosti nastajanja zgodnjenovoveških gledaliških iger. Pomanjkanje ohranjjenih dramskih rokopisov nas opozarja na pomembno vlogo posrednikov, kot so stavci, tiskarji in uredniki; ker pa se je izgubila tudi večina dram iz tedanjih angleških komercialnih gledališč, so primerjave, ki temeljijo na odkrivanju edinstvenih ali pogostih besednih zvez pri različnih avtorjih, nezanesljive. Članek se osredotoča na dramatiko iz elizabetinskega in jakobovskega obdobja, zlasti na nedavno predlagano sodelovanje Christopherja Marlowa in Williama Shakespeara pri igrah o Henriku VI. Z vpeljavo koncepta GIGO (garbage in, garbage out) iz informacijske tehnologije opozarja na vpliv, ki ga imajo zapleteni procesi nastajanja in prenosa besedil na avtorstvo, in poudarja, da so tudi najbolj izpopolnjene tehnike ugotavljanja avtorstva zanesljive le toliko, kolikor so zanesljivi (pogosto nezanesljivi) podatki, ki jih uporabljajo.

Ključne besede: avtorstvo, Christopher Marlowe, William Shakespeare, dramatika, elizabetinsko gledališče, stilometrija, GIGO
1 Introduction

Literary scholarship does not make global headlines every day. However, the publication of *The New Oxford Shakespeare* (NOS) in 2016 did, and it did so for various reasons, the one most emphasized by the media being the suggestion that Christopher Marlowe had co-authored the three *Henry VI* plays. But when it was announced the news was already more than 200 years old, as there have been dozens of studies examining the authorship of the three *Henry VI* plays, and doubts about William Shakespeare’s exclusive authorship, especially of *Part One*, have persisted since the 18th century. Still, the NOS claims to be the first edition of Shakespeare’s complete works based on quantitative study rather than editorial taste (Craig and Greatley-Hirsch 2017, 10).1

Quantitative authorship studies (also variously known as linguistic processing, computer-assisted methods, stylostatistics, stylometry, stylometrics, computer stylistics, non-traditional attribution methods, etc.) are a fast-developing field of research in authorship. Nonetheless, examining the authorship of early modern English drama poses a formidable challenge, primarily due to the precarious state of extant texts and their ambiguous origins. Accordingly, this article is situated at the intersection of stylometry, the materiality of early modern play texts and their (collaborative) authorship. The proposed collaboration in the NOS between Marlowe and Shakespeare (and others) serves as an illustrative case study of the broader issues concerning the authorship of these works, the lack of solid, conclusive evidence, and the collaborative nature of theatrical and book productions during Elizabethan and Jacobean periods.

2 The *Henry VI* Plays

The three *Henry VI* plays – and *Richard III* (together they are sometimes seen as Shakespeare’s first historical tetralogy) – chronicle the events surrounding the reign of King Henry VI and the power struggles for the English throne against the backdrop of the Wars of the Roses, between the Yorkists and Lancastrians. The play in the *Henry VI* trilogy (if it is a trilogy at all) that is now generally thought to have been written and staged first was what is now known as *The Second Part of Henry the Sixth* (*2 Henry VI*) after its 1623 Folio text. The earlier version, shorter by a third, was titled *The First Part of the Contention betwixt the Two Famous Houses of York and Lancaster* and first published in quarto in 1594 without an author’s name. *The Third Part of Henry the Sixth* (*3 Henry VI*) as it is titled in the First Folio also has a shorter alternative version – the 1595 octavo *The True Tragedy of Richard Duke of York*. Like *The Contention*, *The True Tragedy* was also issued without an author’s name. The two plays were first attributed to Shakespeare in Thomas Pavier’s 1619 reprint and then more credibly in the 1623 Folio (Taylor and Loughnane 2017, 493–99).

It is now usually thought that *The First Part of Henry the Sixth* (*1 Henry VI*) was written as a prequel to cash in on the successes of *The Contention* and *The True Tragedy*. It exists in only one early edition – the one from the 1623 Folio. There is widespread agreement that the play is collaborative, but no broad consensus has been reached “as to the authors involved or the portions of the play attributed to each of them” (Chernaik 2014, 195). In addition to

1 *The New Oxford Shakespeare* is accessible online at https://www.oxfordscholarlyeditions.com/nos.
Shakespeare, the names circulating are Thomas Nashe, Thomas Kyd, Christopher Marlowe, Thomas Lodge and Robert Greene (Taylor and Loughnane 2017, 513–17).

When a play – like *1 Henry VI* – exists in only one early edition, either from the First Folio or in a quarto/octavo edition issued before or later, that is typically taken as the most authoritative version. However, there are often more than one early editions of the same play, often in importantly different variants, as is the case with *2 and 3 Henry VI*.

Therefore, are the different texts “versions of the same play” or “different plays written by different dramatists?” (Cox and Rasmussen 2020, 158–59). Were the changes intentional or accidental? Broadly speaking, there are two hypotheses explaining the origins of these textual variants. A very influential idea in the 20th century (promoted by the New Bibliography movement, and especially W.W. Greg and A.W. Pollard) was that the quarto/octavo texts were memorial reconstructions of the texts behind the Folio texts. The advocates of this, now contested hypothesis argue that actors reconstructed the text of a popular play from memory (or through note-taking) in order to sell it on to a publisher or perform it when touring the provinces (Murphy 2007, 8). On the other hand, the NOS editors of the *Henry VI* plays champion the revision theory, which proposes that the quarto/octavo variants were written in collaboration and later revised or adapted by Shakespeare to produce the Folio texts (Taylor and Loughnane 2017, 493–99). In the NOS, *2 Henry VI* is attributed to Shakespeare, Marlowe, and another unidentified author and thought to have been revised by Shakespeare (original best guess 1590, revision best guess 1595); *3 Henry VI* to Shakespeare, Marlowe, and another unidentified author, with revisions by Shakespeare (original best guess late 1590, revision best guess 1595); and *1 Henry VI* to Nashe, Marlowe, and another unidentified author, adapted by Shakespeare (original date March 1592, adaptation best guess 1595). According to the NOS, Shakespeare was “the dominant writer” in the three *Henry VI* plays and *Richard III*, “the only one present in all four plays, and the reviser who turned them into a coherent historical and dramatic sequence” (Taylor and Loughnane 2017, 425).

3 Stylometry

Different sorts of evidence are considered when attributing the authorship of early modern English drama (e.g., palaeographical evidence, the theatrical provenance of individual play texts, chronological evidence, poetic and

2 By contrast, Darren Freebury-Jones (2016; 2017; 2022) insists on assigning *2 and 3 Henry VI* to Shakespeare alone. Moreover, while he supports the common view on “the pervasive influence that Marlowe had on Shakespeare’s dramaturgy”, he finds “no compelling evidence to suggest that Marlowe and Shakespeare co-authored any surviving play texts” (Freebury-Jones 2022, 181, 182).

3 Others, e.g., Brian Vickers (2008) and Freebury-Jones (2022), ascribe *1 Henry VI* to Kyd (and Nashe) and Shakespeare.
often in importantly different variants, as is the case with 2 and 3 Henry VI. Therefore, are the different texts “versions of the same play” or “different plays written by different dramatists?” (Cox and Rasmussen 2020, 158–59). Were the changes intentional or accidental? Broadly speaking, there are two hypotheses explaining the origins of these textual variants. A very influential idea in the 20th century (promoted by the New Bibliography and especially W.W. Greg and A.W. Pollard) was that the quarto/octavo texts were memorial reconstructions of the texts behind the Folio texts. The advocates of this, now contested hypothesis argue that actors reconstructed the text of a popular play from memory (or through note-taking) in order to sell it on to a publisher or perform it when touring the provinces (Murphy 2007, 8). On the other hand, the NOS editors of the Henry VI plays champion the revision theory, which proposes that the quarto/octavo variants were written in collaboration and later revised or adapted by Shakespeare to produce the Folio texts (Taylor and Loughnane 2017, 493–99). In the NOS, 2 Henry VI is attributed to Shakespeare, Marlowe, and another unidentified author and thought to have been revised by Shakespeare (original best guess 1590, revision best guess 1595); 3 Henry VI to Shakespeare, Marlowe, and another unidentified author, with revisions by Shakespeare (original best guess late 1590, revision best guess 1595); and 1 Henry VI to Nashe, Marlowe, and another unidentified author, adapted by Shakespeare (original date March 1592, adaptation best guess 1595). According to the NOS, Shakespeare was “the dominant writer” in the three Henry VI plays and Richard III, “the only one present in all four plays, and the reviser who turned them into a coherent historical and dramatic sequence” (Taylor and Loughnane 2017, 425).

3 Stylometry

Different sorts of evidence are considered when attributing the authorship of early modern English drama (e.g., palaeographical evidence, the theatrical provenance of individual play texts, chronological evidence, poetic and linguistic evidence, and others (Taylor and Loughnane 2017)). Whereas traditional attribution was based on “little more than personal poetical taste” (Egan 2017, 28), the methods evolved and became ever more sophisticated, ranging from verse and metrical tests (rhymes, number of feet, incomplete lines, enjambement, pauses), analysis of unique occurrences of words, spelling, function words (prepositions, conjunctions, articles, particles, auxiliary verbs, and pronouns), rare and/or common vocabulary, sentence length measured in words, word length, verbal parallels (n-grams), and image clusters (Egan 2017, 29–42) to 21st century stylometric tests based on computer-assisted data analyses (e.g., Delta, Nearest Shrunken Centroid, Random Forests, Zeta, PCA, Shannon entropy, and the $t$-test (Craig and Greatley-Hirsch 2017)).

Gabriel Egan (2017, 33) notes that until the second half of the 20th century there were, in effect, only two methods in use: counting verse features and looking for verbal parallels. This changed fundamentally in the early 21st century, which has seen “an explosion of methods

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for attributing sections of early modern drama” (Gossett 2022, 93). As Heather Hirschfeld (2015, 23) writes, the emergence of machine-readable databases, including Elizabethan and Jacobean plays, and computerized analyses and comparisons of linguistic features “have enabled a kind of ‘renaissance’ in attribution studies”. However, although the methods claim to be scientific and to have “revolutionized attribution studies” (Jackson 2017, 49), they have so far failed to yield generally accepted, sufficiently convincing results. Typically, they do not – cannot – give a “yes” or “no” answer. Rather, they employ assumption, conjecture, and statistical probabilities.

Describing authorship attribution endeavours at the beginning of the 20th century, Samuel Schoenbaum (1966, 68) observed that “the metrical tables, the word-lists, the impressionistic comments on theme, character, and plot, the final brandishing of the parallels – all designed to create a ‘cumulative impression’ – were to constitute a durable formula”. Still today circumstantial evidence is occasionally presented by some scholars in a way that relies on the aggregate weight of individual pieces of evidence with limited value. Presenting evidence in such a way, these scholars hope that their collective strength might outweigh the weaknesses of each individual piece (Love 2002, 203). These methods in general, and the NOS’s in particular, have been subject to much criticism and controversy, both in terms of their methods and their findings. Different authors have emphasized that there is inadequate theoretical framework to explain the successes of the methods used (Evert et al. 2017), that there may be some academic vested interests behind the NOS’s attributions (Williams 2018), and that although the edition prides itself on “big data” analyses, some of the samples studied are very small (Auerbach 2019; Barber 2021). To quote a reviewer: the collaborations newly determined by the NOS “should be taken cum multo salis” (Rudman 2019, 705).

On the other hand, there is a great deal of optimism among the proponents of these new stylometric methods, who argue that “given data enough and time to develop the necessary methods, quantitative criticism promises to shed light on many unresolved questions about Shakespeare’s canon, chronology, sources and style, as well as his relationship to his contemporaries” (Greatley-Hirsch 2021, 215). They contend that, contrary to stylometric findings, subjective preferences can lead individuals to reject even the most compelling authorship attribution that contradicts their personal beliefs (Jowett 2007, 19). They maintain that the field of authorship attribution has progressed to the point where subjective impressions are no longer considered sufficient to support new attributions, and quantitative studies are now necessary to provide a more rigorous and persuasive basis for attributing works to specific authors (Craig and Greatley-Hirsch 2017, 9). It also seems sensible to accept that “the fact that a technique is badly applied in one case does not mean it may not be well applied elsewhere” (Love 2002, 79). Nevertheless, it is just as important to bear in mind that “using modern digital technology does not automatically immunize scholars against perpetuating old methodological mistakes” (Jackson 2017, 49).

The argument that I would like to develop further in this article does not dispute the techniques themselves, since most serious analyses consistently outperform subjective approaches and chance discoveries, and demonstrate their ability to extract meaningful insights from the data. While some authorship attribution methods certainly seem more
reliable (“scientific”) than others, I would like to argue that all the methods and techniques have the same fundamental problem – and that it precedes them. I propose that what really matters is the material realities behind the data – that is, the origins of the Elizabethan and Jacobean play texts under investigation.

4 GIGO

At this point, I would like to introduce a concept from computer science – GIGO (garbage in, garbage out), which means that the quality of output is intrinsically linked to the quality of input. In other words, if inaccurate or flawed data is fed into a system, the resulting output is unlikely to be reliable or meaningful. To state the obvious: the data – the “input” – in authorship attribution studies is the text; thus, the GIGO principle underscores the pivotal correlation between the origin, nature, and quality of texts analysed and the subsequent dependability of outcomes aimed at discerning their authorship. For example, if the texts used for stylometric analysis are of poor quality, corrupted, not representative of the author’s style because of their transcription or transmission or if they are misattributed, the results will inevitably be compromised. Similarly, if there are biases in the training data or erroneous assumptions made during the study, they can propagate through the analysis, leading to questionable results. As Egan (2017, 27) observes, “Shakespearean authorship attribution by computational stylistics […] has already had spectacular failures because the value of evidence was wrongly weighed”.

In an early awareness of GIGO in attribution studies, the Victorian scholar Frederick G. Fleay, when examining hapax legomena in Shakespeare’s plays and relying for that on Mary Cowden Clarke’s concordance, acknowledged that any potential errors in her work may have caused misattribution in his (1874, qtd. in Egan 2017, 30). In an example from 1901, Ashley Horace Thorndike used the distinction between the pronoun “them” and its contracted form “‘em” to distinguish between Beaumont, Fletcher, and Massinger. He found that Massinger was the only one to have invariably used the longer form throughout his texts – until he realized he had been using an edition of Massinger’s texts whose editor changed all occurrences of “‘em” to “them” (Schoenbaum 1966, 171). The researchers who continue to study authors’ preferences, say, between “whilst” and “while”, “among” and “amongst”, “betwixt” and “between” (Freebury-Jones 2019, 4) will certainly be aware of any possible printing-house or editorial interventions in the texts they use for their analyses. As mentioned above, some authorship attribution studies look at sentence length. However, there may be significant differences in how the same text is divided into sentences in different versions (e.g., Hamlet in Q1 (1603), Q2 (1604/5), and F (1623) (Murphy 2007, 5)); therefore, the choice of the edition(s) the scholar chooses to work with is, again, of key importance. Another example of editorial intervention with wide-ranging consequences is “distinguishing between verse and prose, and affirming line endings”, which are “as subjective and delicate tasks as

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4 While online search engines and the Oxford English Dictionary (s.v. “garbage”) suggest that the term dates to the 1950s, the concept itself was already known to computing pioneers like Charles Babbage (1791–1871), who invented, inter alia, early mechanical computers. He conveyed his astonishment at the “confusion of ideas” expressed to him by members of the Upper and Lower Houses, asking him “if you put into the machine wrong figures, will the right answers come out?” (Babbage 1864, 67).

5 Incidentally, Fleay believed all the three Henry VI plays to have been “wrongly ascribed to Shakespeare” (1874, qtd. in Egan 2017, 30).
any in editing” (Jowett 2007, 137). During analyses, including attribution, tabulating verse and prose – and deciding what paratextual features to include in the counting – “is a highly inexact process”, and “scholars not infrequently disagree as to what is prose and what is verse in the texts they edit” (Bruster 2023, 136).

A prominent scholar in stylometry, Hugh Craig (2021, 230, 232), who asserts “that there are persistent internal consistencies in authorial canons”, adds himself that occasionally “authors can confound standard authorship methods and write unlike themselves throughout a work”. In an example from the work Craig and John Burrows did while testing for the authorship of 3 Henry VI for the NOS, they describe their stylometric tests for Marlowe’s The Jew of Malta as “a spectacular failure, with only 29 out of the 81 segments attributed to Marlowe” (Burrows and Craig 2017, 210). Their explanation is that the play “evidently departs from the Marlowe style as represented by the other six plays”, but it is nevertheless “still Marlovian” (Craig 2017, 212). Yet two other renowned Shakespeare scholars, writing for the same volume, draw a conclusion that challenges that interpretation, stating that one cannot use “the same scrupulous methods” in different cases and only accept their conclusions in some cases and not in others: “once the validity of internal evidence is granted in even a single case, then its application to other cases cannot be avoided” (Taylor and Loughnane 2017, 431, 432).

The corpus sizes of the dramatists considered for authorship present additional difficulties, especially when compared to Shakespeare’s relatively large and unambiguous corpus. Thomas Kyd, for instance, only has one well-attributed original play to his name, The Spanish Tragedy, so authorship scholars may add his translation Cornelia and an anonymous play, Soliman and Perseda, to his corpus (see, e.g., Craig 2021, 235). This, of course, is speculative and prone to returning doubtful results. Thomas Nashe similarly has only one sole-authored play, the comedy Summer’s Last Will and Testament, which is why some studies exclude him from the pool of the possible authors they survey for the authorship of 1 Henry VI. On the other hand, the editors of the NOS do not: “Although we cannot be certain that Nashe wrote every line, scene, or sub-scene of Act 1, he is clearly the primary author of Act 1” (Taylor and Loughnane 2017, 514).

The application of GIGO in early modern English drama authorship studies underlines the importance of rigorous and careful data collection, textual analysis, and statistical modelling to ensure that the conclusions drawn from these studies are trustworthy and reflective of the actual authorship patterns. To quote Taylor and Loughnane (2017, 432), “the issue is not whether to use stylistic evidence at all, but how to use it properly, how to distinguish strong stylistic evidence from weak stylistic evidence”. Indeed, “textual scholars past and present differ absolutely on some of the same evidence” (Knowles 2001, 139). This, in turn, leads to questions about what defines strong evidence and how to interpret it.

5 Texts and Authorship

It is far from straightforward to identify unequivocally what William Shakespeare or Christopher Marlowe (or most of their contemporaries) wrote in their own hand, and to what extent the printed texts attributed to them represent it. John Jowett (2007, 18) argues that “documentary evidence such as title pages” should take preference over “‘internal’ evidence
based on language and stylistic preferences”. However, external evidence is often unreliable. There are at least three problems related to author attribution on Elizabethan and Jacobean title pages. First, authors working for the commercial theatre in the late 16th and early 17th centuries had very little control over their plays (Jowett 2007, 7), which – as material objects (manuscripts) – became “the legal property” of the theatre company that bought them (Taylor and Loughnane 2017, 422; Giddens 2011, 13). Shakespeare’s name first appeared on title pages in 1598, although some of his plays continued to appear anonymously after that, too. Marlowe’s name first appeared on a title page in 1594. Second, the authenticity of external evidence for plays’ authorship is often subject to debate, as publishers may have made errors or acted fraudulently in attributing works to specific authors (Giddens 2011, 60; Elliott and Greatley-Hirschi 2017, 141). Third, the “title pages of plays from the early modern public theatres drastically under-represent collaboration” (Jowett 2007, 18).

Shakespeare’s canon was essentially defined by the publication of his collected plays, Mr. William Shakespeare’s Comedies, Histories & Tragedies, known as the First Folio, in 1623. This remains “the chief external evidence” for his works (Taylor and Loughnane 2017, 417). Nevertheless, despite the later inclusion of Pericles and The Two Noble Kinsmen, both of which are absent from the First Folio, in the playwright’s oeuvre, “there are undoubtedly more plays to which Shakespeare contributed parts, and substantial parts of plays in the 1623 First Folio are not his” (Egan 2017, 28). While Shakespeare’s First Folio was published by his colleagues, albeit seven years after he had died, Marlowe’s first collected works was only published 230 years after his death, in 1823 (Hopkins 2005, 184). On the other hand, and unlike Shakespeare’s early editions, all Marlowe’s plays were published with his name on the title page – except for the two parts of Tamburlaine the Great (1590), which were, in contrast, the only play texts of his to be published before his death in 1593. But in fact Marlowe’s authorship is much more complicated than this summary implies. Indeed, the Tamburlaine plays remained unattributed for decades, and “by the most conservative standards” they should be regarded as anonymous (Erne 2013, 64). Dido, Queen of Carthage (1594) was attributed on the title page to Marlowe and Thomas Nashe, and this “attribution to two authors in 1594 is not just exceptional but unique, coming at a time when few plays were attributed to one author” (Hadfield 2021, 205). The Massacre at Paris (1594?) is typically seen as a problematic text, as it “has evidently suffered in transmission” (Craig 2021, 235). Doctor Faustus exists in two strikingly different early editions, the A-text of 1604 and the B-text of 1616, and they are both collaborative play texts. The first (extant) text of The Jew of Malta was not published until 1633, by which time it had likely been revised by others (Craig 2021, 235). Thus, when it comes to Marlowe only Edward the Second (1594) comes anywhere near the definition of a non-contentious, sole-authored, well-attributed play text required for unambiguous attribution tests.

Expanding upon the earlier assertion, the input data in authorship attribution studies is texts, and regardless of how accurate an attribution technique is, the results will be inaccurate if the input is unsound. This is where serious attribution troubles begin. Given the realities of early modern play text production, this is true for sole-authored and collaborative plays, for well-attributed and anonymous ones (as well as all those in the grey areas in between). The stark fact is that there are no undisputed manuscripts of any of Marlowe’s or Shakespeare’s
undisputed works in their own handwriting, and no completely reliable early definition of their canons (Taylor et al. 2017, v). All we have that is relatively reliably in Shakespeare’s and Marlowe’s hands is a few signatures on legal documents (six by the former and one by the latter). Other than that – and a handful of documents, comments by fellow authors and anecdotal evidence from their contemporaries – the two authors are defined by the plays and poems that are now associated with their names (Gossett 2022, 1).

Authorship studies must face another major obstacle: “there is no perfect early printed play” (Giddens 2011, 116). In general, when a play by an early modern playwright, say Marlowe or Shakespeare, was set into type from a manuscript, there were an array of possibilities for the printer’s copy: a manuscript in the author’s hand, a copy of that manuscript (prepared by a scribe, perhaps one approved by the Master of the Revels), a copy prepared for the bookholder (with stage managing notations) or an amalgam of a number of different manuscripts (Berger 2007, 62). Of course, printers also worked from previously printed texts. Whatever the compositor used as his copy may have been marked up, amended, annotated, revised, cut, added to, or otherwise changed by a variety of textual transmission agents (e.g., actors, scribes, censors, or authors themselves) (Murphy 2007, 11). Consequently, any attempt to reconstruct what Shakespeare or Marlowe really wrote “requires a degree of scholarly reconstruction, and an acceptance that much of this reconstruction is likely to remain hypothetical” (Shrank and Werstine 2021, 67).

In her examination of early modern English plays, Tiffany Stern (2009, 1) finds that they were “pieced together out of a collection of odds and ends”, such as plots drawn up by professional plotters, scenes written out of sequence, prologues and epilogues, songs, scrolls, arguments, and playbills. Each element had its own origin (i.e., author), circulation, and rate of loss and survival (Stern 2009, 2–4). In this way, commercial theatres helped create an explosion in the production of “licensed playbooks, actors’ parts, musicians’ scores, prologues, epilogues, scenarios, backstage plots, perhaps scrolls and letters to be read on stage, scribal copies for fans and patrons (and perhaps booksellers), account books, inventories of costumes and properties, contracts, and advertising copy for playbills” (Taylor 2017, 8).

Elizabethan and Jacobean dramatists participated (and collaborated) in a network of playwrights, revisers, scribes, printers, compositors, correctors, actors, censors, editors, and theatrical impresarios responsible for shaping early modern plays. Accordingly, books, plays – even authors themselves – are sometimes seen “as unstable entities produced within intersecting cultural and commercial networks” (Hooks 2016, 157). This complex chain of textual production can make it very hard to talk about authors and authorship in our modern sense. It is thus crucial to understand that all these agents had their own agendas (Taylor 2016, 143) and “produced the plural Shakespeares” (Stallybrass and Chartier 2007, 35).6

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6 Several prominent scholars dispute such emphasis on non-authorial agents, arguing that the author’s style trumps secondary factors like printers and compositors (Egan 2014), which “have minimal effect on the analysis of large numbers of data” (Jackson 2017, 124). They maintain that “within collaborative texts it is possible to tell writers apart; even if we can’t identify them, we can nonetheless frequently posit shifts in authorial hands through local differentiation across a range of stylistic indicators” (Sharpe 2014, 33).
6 Collaborations

A substantial body of scholarly investigation now supports the notion that Shakespeare – like many of his contemporaries – engaged in collaborative writing. Consequently, the canons of early modern playwrights are now not only unstable and open, but also intersectional, as the same works make part of the canons of different authors: “We now know that any ‘Complete Works’ of Shakespeare is also an anthology of selected work by Middleton, Fletcher, Marlowe, Peele, Nashe, Wilkins, and the Anonymous” (Taylor 2016, 148).\(^7\) However, the statistics on the shares of single-authored versus collaborative plays (and within the latter the lines, scenes, and acts written by individual authors) are hard to pin down. Joseph Rudman (2016, 315) describes 16 out of the 36 First Folio plays “as being collaborations or at least having significant interpolations”. Gary Taylor (2016, 141) suggests that “anywhere from a quarter to a third of Shakespeare’s plays contain material written by other professional playwrights. And even those numbers underestimate the pervasiveness of collaboration in the Shakespeare canon”. The authors of the NOS “identify Shakespeare’s as the only hand in fewer than two-thirds of the surviving plays that Shakespeare had a hand in” (Taylor 2017, 23). On the other hand, they believe that he wrote “at least 90 per cent of the words included in the Folio” (the rest having been contributed by Fletcher, Middleton, Marlowe, Nashe and Peele) (Taylor and Loughnane 2017, 425). The same scholars also argue that “Shakespeare collaborated less frequently” than some of his contemporaries (e.g., Fletcher, Beaumont, Middleton, or Massinger) and that “he was unusually independent and solitary” (Taylor and Loughnane 2017, 423). In the same way, Shakespeare is described as “probably unusual in the extent to which he wrote as sole author” (Jowett 2007, 17) and, in terms of attribution challenges, “a haven of safety with twenty-eight well-attributed single-author plays” (Craig 2021, 236).

With the “resistance to the mono-authorship monopoly” (Taylor 2016, 142) came the need to identify individual authors in collaborative texts. Attribution studies require well-attributed, sole-authored plays, which make possible the creation of individual authors’ style markers through stylometric tools. “In an ideal universe,” Elliott and Greatley-Hirsch (2017, 141) write, the studied authors’ corpora “would consist only of well-attributed, sole-authored texts of sound provenance, with each of the individual authors represented by equally sized bodies of writing”. As, by definition, such an ideal universe does not exist, the practical and material realities of the production of early modern play texts must be considered.

There is little doubt today that Shakespeare’s plays were shaped by “several varieties of collaborative authorship” (Giddens 2011, 10). However, there is no universal agreement as to what plays or what parts of the plays are collaborations or who the collaborators were. A significant share of what is commonly attributed to Shakespeare is, in fact, the result of collaborative efforts or adaptations of existing works by other individuals. While writing a play for the commercial stage a playwright could work alone or with others, but he also made use of others’ plays, stories, poetry, chronicles, proverbs, and so on. In Taylor’s (2016, 145) words, “Shakespeare made an honest living stealing other men’s work”. Hence the title pages of, for instance, _Julius Caesar_ and _Anthony and Cleopatra_ should read “based on Plutarch’s

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\(^7\) See, e.g., Oxford Scholarly Editions Online (oxfordscholarlyeditions.com), where _1 Henry VI_ appears among the works of Shakespeare, Marlowe, and Nashe.
Lives, translated by Thomas North, adapted by Shakespeare” (Taylor 2016, 144). Even if “the actual penning of speeches and scenes was done separately”, which “makes it much easier to differentiate the work of two (or more) authors of a cowritten play” (Taylor 2016, 146), the various possible agents of collaboration pose significant challenges to authorship attribution.

Actors and theatre companies represent another agent of collaboration. Tellingly, until the late 1590s playwrights’ names were frequently left out from plays’ title pages, but companies were “almost always identified” (Jowett 2007, 62). Information about performance was typically given where today’s readers expect the author’s name (Smith 2021, 99–100). That is why some scholars argue for authorship attributions like “Harry the Sixth, as presented by Lord Strange’s Men” (Burns 2000, 84) and for making sense of Elizabethan and Jacobean play production by compiling collected plays produced by the companies different playwrights worked for (e.g., “The King’s Men’s Complete Works” (Boguszak 2017, 312)). These authors maintain “that playing companies developed distinctive and recognisable styles – relocating the Foucauldian ‘author function’ from the playwright to the company and its agents” (Craig and Greatley-Hirsch 2017, 166), to which empirical stylometry is opposed in theory and practice, arguing that we should follow “the fundamental ethical principle of giving people credit for the work that they have done” (Taylor 2017, 20; see also Egan 2014; Craig and Greatley-Hirsch 2017).

Another collaborator the playwright “had no option but to collaborate with” was the Master of the Revels’ office, who licensed plays for public performance and may have censored them by, for example, removing expletives or politically sensitive content (Murphy 2007, 14). The final censoring and corrections were typically done “before the play was returned to the playhouse and the actors’ parts were created” (Stern 2004, 145). This is another element of early modern play text production that modern editors occasionally seek to undo (Jowett 2007, 116), but they can only do so in a subjective and speculative manner.

Our only access to Shakespeare’s and Marlowe’s texts is through printed books, and “it is an axiom of book history that authors do not make books. Books are material objects created by specialist craftsmen” (Taylor 2016, 143). As a text was being prepared for printing, its spelling and punctuation “were primarily determined by the compositor, who need not in any case have been working from an authorial manuscript” (Love 2002, 196). Compositors regularly applied their own orthographic conventions to the manuscripts they set in type (Jowett 2021, 88). Thus, the compositors’ role extended beyond simple mechanics; as they (re-)shaped the text, they produced “the material precondition of all later readings” (Stallybrass and Chartier 2007, 37). Furthermore, printers’ in-house proofreading was done while the presses were running (the so-called stop-press corrections), which resulted in a random patchwork of corrected and uncorrected pages in surviving copies (Smith 2021, 95). This occasioned variants not only across different editions but also within the same edition, and these variants are not apparent to the reader who consults only one copy (perhaps the one available in a digitalized copy online). The “wide variations in orthography and typography and poor

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8 While individual dramatists should undoubtedly be credited for their work, the texts “we read and interpret are objects produced by anonymous compositors, pressmen, and proofreaders” (Taylor 2016, 143), whose work ought to be taken into account, too.
proofreading of early printed texts” make the attribution attempts that look at “a mechanical solution to authorship based on style […] inconclusive at best and widely inaccurate at worst” (Cox and Rasmussen 2020, 47).

Just as we have no undisputed manuscript written by Marlowe or Shakespeare, we can never have any unmediated access to their imaginations. Every edition of the plays they wrote, “from the first that was published to the most recent, has been edited: it has come into print by means of a tangled social process and inevitably exists at some remove from the author” (Greenblatt 1997, 71). All their texts “are editions; all have been edited; all have been mediated by agents other than the author” (Taylor 1987a, 1). Any unmediated text is therefore “unattainable; we can only choose which mediator(s) to accept” (Taylor 1987a, 3). When Richard Jones first published the _Tamburlaine_ plays in 1590, he acknowledged in his prefatory epistle “To the gentlemen readers and others that take pleasure in reading histories” that he had “(purposely) omitted and left out some fond and frivolous gestures” which he deemed “unmeet for the matter” and “tedious unto the wise” (qtd. in McInnis 2020, 2). This means that we only have access to Jones’s version and “what _Tamburlaine_ would have looked like had Jones not intervened remains a mystery” (McInnis 2020, 2). Meanwhile, in their address “To the great variety of readers” in the First Folio, John Heminges and Henry Condell – Shakespeare’s friends and compilers of the 1623 complete edition of his plays – assure their readers they would no longer be “abused with divers stolen and surreptitious copies, maimed and deformed”, as the texts they provide in their edition are “cured and perfect of their limbs” (qtd. in Gossett 2022, 42). The list of modern editors’ interventions is extensive (including “correction of printing errors, emended readings, relineation, repunctuation, reassignment of speeches, correction and supplying of stage directions, act and scene divisions, the identification of locales, etc.” (Sanders 1990, 20)) – and, as I have argued throughout this essay, they can have significant impact on our views of authorship and style.

7 Lost Plays

Sometimes early copies are lost and sometimes they are found. For instance, the 1595 octavo edition of _3 Henry VI_ (i.e., _The True Tragedy_) was unknown until 1796 (Cox and Rasmussen 2020, 159). Or, an example from Marlowe: _Edward the Second’s Q1_ (1594) is an exceptional rarity today, and since the Second World War, during which the Kassel copy disappeared, it was believed that the only surviving copy was held in the Zentralbibliothek Zürich. In 2012, however, Jeffrey Masten discovered a third known copy (i.e., the second copy still extant today) in the Universitätsbibliothek Erlangen-Nürnberg. None of these three copies is completely identical to the others (McInnis 2015, 310). Therefore, if one were being pedantic, even non-contentious, well-attributed, sole-authored plays like _Edward the Second_ should be attributed in the following manner: the Marlowe of the Q1 _Edward the Second_ (or even the Marlowe of the Zurich Q1 _Edward the Second_).

It is estimated that in the lifetime of English commercial playhouses, roughly between 1567 and 1642, about 3,000 plays were written and staged, of which 543 are still extant, 744 are known to have existed but are now lost and there are hundreds that have disappeared without
Play texts became lost for numerous different reasons, and “the surviving drama is, statistically speaking, atypical precisely because of its survival; these plays constitute the distinct minority of the total dramatic output for the period” (McInnis 2021, 3). The texts that survived did so because they were “able to make the transition into the early modern print marketplace. Those qualities that made a play viable in that marketplace will be over-represented in the survivors” (McInnis and Steggle 2014, 2). Hence, the surviving versions of plays do not necessarily represent the most recent or authoritative versions (McInnis 2021, 7).

Authorship attribution scholars often look at n-grams (consecutive word sequences) or verbal parallels, phrases, and collocations that authors share and then decide (often subjectively) whether the specific intertextual element is a sign of authorship, allusion, imitation, citation, and suchlike – or mere coincidence. Using modern electronic corpora and digital databases, they claim to be able to “ascertain just how many times a verbal repetition occurs in texts of the period” (Freebury-Jones 2021, 191) and determine whether the phrases are “rare (and therefore potentially evidential) or common (and therefore meaningless)” (Taylor and Loughnane 2017, 448). But, to quote Harold Love (2002, 151), “what is singularly lacking to date is any way of calculating the level of significance that applies to such findings”. The crucially important qualifications are the following: first, we can only computer analyse the texts that have been digitalized; and second, because of the enormous gap created by the lost plays we cannot perform adequate negative checks to establish that “similar results are obtained by no other candidate […] when the same processes are carried out” (Jackson 2017, 59). Clearly, as Gary Taylor (1987b, 89) puts it, “when evidence runs out, opinion runs in”.

9 This is especially true of the 1580s and early 1590s, which is why “Shakespeare’s so-called Lost Years (1586–91) may have partly been spent writing what are now lost plays” (Taylor and Loughnane 2017, 422).
8 Conclusion

Scholars engaged in the examination of individual texts are well-acquainted with the inherent ambiguities within each work, but when extensive datasets are input into computational systems the intricacies and nuanced details may become obscured or overlooked. One thing is certain, though: no text by Shakespeare or Marlowe (or any other early modern playwright) we read today, and in whatever medium we do so, can ever fully represent what they actually wrote in their hands. In assessing the Marlowe-Shakespeare collaboration hypothesis in the Henry VI plays – just as in any other authorship attribution study – it is crucial for scholars to evaluate rigorously the quality of historical evidence, the integrity of the texts, the appropriateness of their analytical methods and the potential biases in the interpretation of data. There is no avoiding the fact that “the research findings are only as good as the databases and their users” (Freebury-Jones 2019, 7). Furthermore, the substantial number of lost plays makes negative checks impossible, and leaves gaps in the historical record that render definitive authorial comparisons and determinations elusive.

The choice of a text variant will impact any analysis we perform on it, including authorship attribution. Even when a text is largely uncontroversial, it will incorporate work by agents other than the playwright, as each play is a unique amalgam of original authorial writing (either single-authored or collaborative), theatrical adaptation, printing-house idiosyncrasies, censorship, cutting, revision, adaptation, and editorial mediation. These “historically determined collaborations of authorial and non-authorial intentions” can help explain at least some conflicting findings and attributions, and despite the great promise of empirical stylometry, “recent developments suggest that the question of authorship has not been resolved because it is unresolvable” (Cox and Rasmussen 2020, 47).

To reiterate the essence of my argument, I propose that the reason why different researchers cannot reach any overwhelming consensus or why they attribute the same textual sites to different authors lies not (necessarily) in the methods they use (although these, too, have been subject to rigorous criticism), but rather in the ambiguous origins of the texts they study. In the future, authorship attribution techniques may progress beyond what we deem possible today (very likely with the assistance of AI), but for now the existing textual witnesses (in our case, Elizabethan and Jacobean play texts) do not seem to warrant the degrees of certainty that scholars working in authorship attribution often express. Although this may seem defeatist, I would like to suggest that there is some value in highlighting what we do not know, what is perhaps unknowable, as well as in avoiding unfounded speculation.

References


