Exploring Co-Authorship in *2 Henry VI*

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Abstract

The article explores the possibility extended by Hugh Craig and Arthur Kinney that *2 Henry VI* is a collaborative play. Passages attributed to Peele and Shakespeare in *Titus Andronicus* were tested for 'rare' tetragrams (i.e. instances which occur less than five times in plays first performed between 1580-1600) in order to gain an insight into authorial borrowing and self-borrowing. In this respect, the article combines Martin Mueller's work on tetragrams plus (four plus word sequences) in 'Shakespeare His Contemporaries', with that of Ian Lancashire's studies on authors' working memories. The same methodology was also applied to passages attributed to Shakespeare and his co-author in *Edward III*. In particular, this study tests Act 3 of *2 Henry VI*, which is considered Shakespeare's primary contribution by Craig and Kinney, against the remainder of the play, in order to examine whether shared verbal parallels signify associative groupings at the forefront of Shakespeare's mind as he composed the play, or whether these parallels indicate separate authorial cognitive processes.

Keywords: Authorship Studies, Collaboration, Collocations, Self-repetition, Shakespeare

Questions have abounded about whether the *Henry VI* plays are collaborative since 1733, when Lewis Theobald doubted the authenticity of the trilogy. In 1790, Edmond Malone, attempting to account for the differences between Shakespeare's Folio texts and their corrupt derivatives, conjectured that the second and third parts of the trilogy were Shakespeare's rewrites of Peele and/or Greene collaborative ventures: the quartos and octavos known as *The first part of the Contention of the two famous houses of Yorke and Lancaster, with the death of the good duke Humphrey* (1594), and *The true Tragedie of Richard Duke of Yorke and the death of good King Henry the Sixt* (1595). In 1928 and 1929, Madeleine Doran and Peter Alexander provided independent studies that showed these texts to be unauthorised versions of the Folio plays, put together by actor-reporters who had featured in Shakespeare's plays for Pembroke's Men, prior to the company's collapse in 1593. Over a decade later, Alfred Hart provided what remains the most comprehensive examination of these unauthorised texts. He concluded that they were 'garbled abridgements of the acting versions made by order of the company from Shakespeare's

manuscripts' (1942, ix). Nevertheless, Malone's theory was perpetuated by John Dover Wilson in 1952, who argued in his editions of the *Henry VI* trilogy that Shakespeare had rewritten lost plays, originally part-authored by Greene, in the 1623 First Folio texts *2* and *3 Henry VI* (1591).[1] Recently, the theory that these plays are collaborative has been revived by Hugh Craig and Arthur Kinney.[2] They argue that 'The evidence converges to support the idea that' *2 Henry VI* 'is a collaboration, that one of the collaborators was Shakespeare, and his contribution is mainly in what is designated Act III in modern editions' (2009, 69).

My focus in this paper is on the second part of the trilogy. I aim to explore the hypothesis that *2 Henry VI* is a collaborative play by running linguistic tests on two early Shakespeare plays that are now widely considered as collaborative: *Titus Andronicus* (1592) and *Edward III* (1593). In my view, the most convincing cases for the divisions of authorship in these plays have been put forward by Brian Vickers, who argues that George Peele is responsible for Act 1 and 2.1, 2.2, and 4.1 of *Titus Andronicus* (Vickers 2002). This division is more or less supported by Craig and Kinney's function-word tests. Vickers also argues that Shakespeare was responsible for 2.1, 2.2 and 4.4 of *Edward III* (known as scenes 2, 3 and 12 in the Oxford edition),[3] and that the rest of the play was authored by Thomas Kyd (Vickers 2014, 102-118). According to these divisions, I shall investigate 'rare' tetragrams (by rare I mean instances which occur less than five times in plays first performed between 1580-1600) shared between scenes (omitting stage directions, which may or may not be authorial) attributed to Shakespeare and his co-authors. I employ anti-plagiarism software known as 'WCopyfind' (<http://goo.gl/u3B9Gz>) to highlight strings of words shared between the selected texts. I use the software program 'Info Rapid Search and Replace' (<http://goo.gl/rHZecj>) to check matches against a corpus of 134 plays first performed in

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[1] I have utilised Martin Wiggins and Catherine Richardson's excellent *British Drama 1533-1642: A Catalogue: Volume III: 1590-1597* (2013) in order to reflect the most likely dates of first performances. I wish to thank Marcus Dahl, Ian Lancashire, Martin Mueller, Lene B. Petersen, Brian Vickers and Richard Proudfoot for their continuing support and critical feedback on this essay.

[2] As for *1 Henry VI* (1592), I align myself with scholars such as Paul J. Vincent and Brian Vickers in the belief that Shakespeare was asked by the Chamberlain's Men to revise a play originally written by Thomas Nashe and (as Vickers contends, and as I now endorse, following years of independent research on Kyd's canon) Thomas Kyd, for Lord Strange's Men. I would suggest that the figures for internal parallels are likely to be higher in revised texts, particularly if the reviser were commissioned to rewrite scenes, as seems to be the case with 4.5 and 4.6 of that play.

[3] Quotations of Shakespeare's works are from the 2005 edition of Wells and Taylor's *Oxford Complete Works*, where the text of *Edward III*, ed. by William Montgomery, was printed for the first time.

London between the decades 1580-1600 (these are old spelling versions of the texts drawn from 'ProQuest'). I also check the rarity of these matches using the databases 'Literature OnLine', or 'LION' (<http://goo.gl/13rIqV>), and *Early English Books Online*, or *EEBO* (<http://goo.gl/Omw41l>), for variant spellings. In this respect I have attempted to consolidate the approaches of attribution scholars such as Brian Vickers, Marcus Dahl and MacDonald P. Jackson towards verbal parallels. My findings reveal that on the basis of (internal) contiguous word sequences, *2 Henry VI* is closer to Shakespeare's sole-authored works than his early collaborations.

Ian Lancashire observes that collocations 'are the linguistic units we work with most: they fit into working memory and resemble what we store associatively' (2010, 180). Martin Mueller has created a database that records repetitions in early modern drama ('Shakespeare His Contemporaries'), which reveals that 'If we look more closely at shared' tetragrams plus (four plus word sequences, ranging from tetragrams to pentagrams, hexagrams etc.) 'by same-author play pairs, we discover that on average plays by the same author share five dislegomena, and the median is four. Roughly speaking, plays by the same author are likely to share twice as many dislegomena as plays by different authors' (2014).[4]

I propose that an investigation of rare tetragrams repeated by authors or shared by co-authors within single texts could give us an insight into the level and meaning of internal verbal parallels. They provide us with the opportunity to scrutinise function-units (such as determiners, conjunctions and subordinators), and could help to bridge methodologies in attribution studies, such as computational stylistics and collocation analyses. Lene B. Petersen has observed that 'Most, if not all, of Vickers and Dahl's phrases of three or more words' consist of 'function words, which may be the triggering factor in the collocation picked up by the software applied' (2010, 160).

A similar methodology to my own was applied to the works of Cicero by Eric Laughton, who analysed 'subconscious repetitions' and claimed, somewhat presciently, that 'this psychological factor may, with due caution, be invoked to aid in the establishment of a disputed text' (1950, 73-83). Nevertheless, Craig and Kinney contend that 'it would seem perilous to argue from a set of' rare 'parallels alone for authorship', for 'If a given section has no such parallels, does that argue for a different author? How long should a section go without a significant parallel before we suspect a second author? Such questions of segmentation bedevil any method, of course, but weigh especially heavily on a method that relies on rarities' (2009, 61). Perhaps an investigation of recurring internal rare tetragrams in Shakespeare's early

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[4] All references to Mueller are to online sources without page numbers. Mueller 2014, <https://goo.gl/LSoJLy>, accessed 12 January 2014.

collaborations and sole-authored plays could help to answer such sensible questions.

This investigation is intended to take a step towards differentiating between associative lexical units at the forefront of respective authors' minds, which Lancashire terms a writer's 'connected discourse span' (Lancashire 1999, 753), and separate authorial cognitive processes. Following an examination of my findings for *Titus Andronicus* and *Edward III*, I shall investigate the nature of internal parallels within the non-collaborative Shakespeare plays, *Richard III* (1593) and *Romeo and Juliet* (1595). I selected these plays for collocation analyses on the basis of genre and chronology, for, as Vickers observes: 'It is a basic principle in authorship attribution studies that the practitioner compare like to like' (Vickers 2011, 122). I shall turn to *2 Henry VI* in order to demonstrate how the word sequences I have collected render the play closer to these sole-authored Shakespeare plays.

A search for rare tetragrams shared between scenes attributed to Peele and Shakespeare in *Titus Andronicus* yielded few results, which suggests that Peele and Shakespeare's mental repertoires of verbal formations were quite different, despite the fact that, as Craig and Kinney put it, they 'worked on their joint assignment, writing dialogue for the same characters in the same settings in a shared plot' (2009, 33). I could detect just three n-grams of four or more words shared between the playwrights' portions. Shakespeare therefore (in scenes attributed to him, amounting to 14613 words in total) averages 0.02 matches with his collaborator. Nevertheless, as Vickers puts it, 'mathematics is not the only arbiter of probability' (Vickers 2014, 110). Close reading of the parallels themselves could highlight the differences and similarities between the dramatists' usages of parallel phrases.

The formation 'my first-born son' is employed in similar ways, as Tamora begs Titus to 'spare my first-born son' (*Titus Andronicus*, 1.1.120) and Aaron threatens to kill anyone who 'touches this, my first-born son and heir' (*Titus Andronicus*, 4.2.91). Will Sharpe observes that 'In any given passage we could be witnessing conscious or unconscious imitation of the style of the other writer on the part of the collaborator' (Sharpe 2013, 648). However, these parallel phrases could be regarded as an unavoidable feature of the plot and family relationship in *Titus Andronicus*:

Thrice-noble Titus, spare *my first-born son* (*Titus Andronicus*, 1.1.120)
That touches this, *my first-born son* and heir (*Titus Andronicus*, 4.2.91)

The second rare parallel, which constitutes a pentagram (five-word sequence), 'from me to the Empress', is employed by Peele when Titus tells Lucius to 'carry from me to the Empress' sons / Presents that I intend to send them both' (*Titus Andronicus*, 4.1.114-115), while Aaron implores Lucius to save his child and 'bear it from me to the Empress' (*Titus Andronicus*, 5.1.54) in Shakespeare's

scene. It seems this formation is play-specific and dependent on dramatis personae. It could therefore be accidental, as opposed to any conscious or unconscious attempt by the authors to homogenise their respective portions:

Shalt carry *from me to the Empress*' sons (*Titus Andronicus*, 4.1.114)
And bear it *from me to the Empress* (*Titus Andronicus*, 5.1.54)

The third and final rare parallel, 'let it be your', is employed in contextually dissimilar ways and suggests separate authorial cognitive processes. In the line 'Sons, let it be your charge, as it is ours' (*Titus Andronicus*, 2.2.7), Peele repeats a formation he employed in *The Battle of Alcazar*: 'My Lord Zareo, *let it be your charge*' (line 1450). The repetition in Shakespeare's scene, 'Listen, fair madam, *let it be your* glory' (*Titus Andronicus*, 2.3.139), is quite unlike Peele's use of the phrase:

Sons, *let it be your* charge, as it is ours (*Titus Andronicus*, 2.2.7)
Listen, fair madam, *let it be your* glory (*Titus Andronicus*, 2.3.139)

The evidence seems to consolidate Vickers, Craig and Kinney's divisions of authorship in *Titus Andronicus*, for, in terms of both quality and quantity, the shared parallels signify different authors' associative memories.

I could detect zero rare tetragrams shared between Shakespeare's proposed portions (amounting to 8239 words in total) and the remainder of *Edward III*. It would therefore seem that Shakespeare and his co-authors shared few extended verbal details in early collaborative works. Contemporary evidence, such as Robert Daborne's letters, suggests that collaborators had lengthy conversations prior to initiating their respective writing processes, but that playwriting was a relatively hasty process in order to supply theatrical companies with material.[5] It would thus seem unlikely that co-authors would have the opportunity to scrutinise the verbal details of each other's portions in attempts to achieve textual homogenisation. These results support the theory I have expounded thus far, anticipated by Mueller, that 'you may expect differences between authors to be rather larger than differences within the work of a single author' (Mueller 2008).

Malone noted in 1787 that in Shakespeare's 'genuine plays, he frequently borrows from himself, the same thoughts being found in almost the same expressions in different pieces' (1787, 34). Let us turn to a text that is accepted as 'genuine' Shakespeare, *Richard III*, to see if Shakespeare repeated himself more frequently than he repeated his co-authors as he composed his individual plays. I divided Act 3 from the remainder of *Richard III*, in accordance with the division of *2 Henry VI* by Craig. The results for internal rare parallels

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[5] Brian Vickers gives a detailed overview of Daborne's letters to Philip Henslowe (2002, 28-32).

between the portions I divided as 'Shakespeare' (Act 3) and 'Non-Shakespeare' (the remainder of the play) were manifestly higher than could be found for the collaborative plays I investigated. Shakespeare averages 0.14 repetitions (of phrases found in the remainder of the play) in Act 3, which amounts to 6908 words in total. The first formation that I detected, 'my Lord of Buckingham', would seem to be play-specific and the result of a necessity for the title Lord of Buckingham. It tells us little about Shakespeare's lexicon of phrases:

What doth she say, *my lord of Buckingham*? (*Richard III*, 1.3.293)
Why with some little train, *my lord of Buckingham*? (*Richard III*, Additional Passage E. 2.2.1)
My lord of Buckingham, if my weak oratory (*Richard III*, 3.1.37)
O do not swear, *my lord of Buckingham* (*Richard III*, 3.7.210)

The second formation, 'how fares our loving' is accompanied by 'brother'/'mother' in the following examples:

Richard of York, *how fares our loving* brother? (*Richard III*, 3.1.96)
Tell me, *how fares our loving* mother? (*Richard III*, 5.5.35)

The four-word sequence 'No doubt, no doubt' is employed as a line-opening in both examples uttered by Richard. Although this tetragram features the repetition of a single function-unit ('no doubt'), one could argue that it tells us something about the ways in which Shakespeare was apt to fill out his lines of blank verse (or perhaps these sequences are a result of stylistic characterisation, as Richard repeats himself impatiently):

No doubt, no doubt − and so shall Clarence too (*Richard III*, 1.1.130)
No doubt, no doubt. O, 'tis a parlous boy (*Richard III*, 3.1.153)

The pentagram 'Upon the stroke of four' follows (as a shared line) Hasting's interrogative 'What is't o'clock?' (*Richard III*, 3.2.2), as well as Richmond's 'How far into the morning is it, lords?' (*Richard III*, 5.5.188):

Upon the stroke of four (*Richard III*, 3.2.2)
Upon the stroke of four (*Richard III,* 5.5.189)

We also find the rare tetragram 'upon the stroke of' in Buckingham's line '*Upon the stroke of* ten' (*Richard III*, 4.2.114), which, as in the Hasting's example, follows the phrase 'what's o'clock?' (*Richard III*, 4.2.114) as a shared line. A concern with time is a device that seems to have been consciously employed by Shakespeare in this play, and might very well constitute deliberate repetition. The tetragram 'kindred of the Queen' is employed in relation

to death in both examples, as Gloucester points out (fallaciously) that 'the guilty kindred of the Queen / Looked pale, when they did hear of Clarence' death' (*Richard III*, 2.1.137-138), while Catesby states that 'The kindred of the Queen, must die' (*Richard III*, 3.2.47). We might note a semantic cluster shared between the former example and Bolingbroke's dialogue in *Richard II* (1595): '*Pale* trembling coward, there I throw my gage, / Disclaiming here *the kindred of the* king' (*Richard II* 1.1.69-70), which also contains the three units 'kindred', 'of the', with 'king / queen'.

How that the guilty *kindred of the Queen* (*Richard III*, 2.1.137)
The *kindred of the Queen*, must die at Pomfret (*Richard III*, 3.2.47)

The formation 'by the Holy Rood' provides evidence for common authorship of these scenes, when we consider that the oath (not found elsewhere in Shakespeare) is shared by Stanley and the Duchess of York, and is accompanied by the personal pronouns 'you' and 'thou' (although we should note that the formation 'by the Holy' is fairly common in early modern plays). It therefore seems that this four-word sequence was at the forefront of Shakespeare's associative memory as he composed *Richard III*:

You may jest on, but *by the Holy Rood* (*Richard III*, 3.2.72)
No, *by the Holy Rood*, thou know'st it well (*Richard III*, 4.4.166)

We might observe that, as in the example of 'the Holy Rood', the phrase 'tomorrow, or next day' is not found elsewhere in Shakespeare's dramatic corpus. Such formations give us an insight into Shakespeare's recent memory, but not necessarily his long-term memory. These sequences seem to have been 'repeated unconsciously because of their persistence' (Poteat 1919, 150) in Shakespeare's mind as he composed the play:

Tomorrow, or next day, they will be here (*Richard III*, 2.4.3)
To visit him *tomorrow, or next day* (*Richard III*, 3.7.60)

When I investigated *Romeo and Juliet* I discovered that a similar pattern emerged as with the sole-authored *Richard III*. I could detect eight repetitions in Act 3 (6747 words), which gives us a figure of 0.12.

The Nurse delivers the tetragram 'live to see thee' in both examples. This formation was perhaps restimulated by the superlative 'best friend', in the line 'the best friend I had' (*Romeo and Juliet*, 3.2.61), which is akin to 'the prettiest babe that e'er I nursed' (*Romeo and Juliet*, 1.3.62).

An I might *live to see thee* married once (*Romeo and Juliet*, 1.3.63)
That ever I should *live to see thee* dead (*Romeo and Juliet*, 3.2.63)

The next example could have been prompted by the phonetically similar lexical choices 'mad' and 'Mab', for stored units may be manipulated and processed mentally according to both meaning and sound. However, this formation can also be found in *Richard III*: '*O, then I see* you will part but with light gifts' (*Richard III*, 3.1.118). The sequence is employed as a line-opening in each example. We might also note the phrasal verb 'see' + 'that', with present tense auxiliary in these lines:

O, then I see queen Mab hath been with you (*Romeo and Juliet*, 1.4.53)
O, then I see that madmen have no ears (*Romeo and Juliet*, 3.3.61)

The tetragram 'in her best array' is delivered by Friar Laurence in both examples:

Happiness courts thee *in her best array* (*Romeo and Juliet*, 3.3.141)
All *in her best array* bear her to church (*Romeo and Juliet*, 4.4.108)

The formation 'commend me to thy lady' can be found in 3.3 and 2.3, as a pentagram, while the line 'Nurse, commend me to thy lady and mistress' (*Romeo and Juliet*, 2.3.161) provides a striking heptagram match:

Nurse, commend me to thy lady and mistress (*Romeo and Juliet*, 2.3.161)
Commend me to thy lady (*Romeo and Juliet*, 2.3.204)
Go before, *Nurse. Commend me to thy lady*,
And bid her hasten all the house to bed (*Romeo and Juliet*, 3.3.154-155)

The tetragram 'be married to this' concerns Paris in both examples, and follows an emphasis on Juliet's being married 'O' Thursday' (*Romeo and Juliet*, 3.4.20). Mueller observes that 'the occurrence of n-gram repetition within a play is strongly motivated by scenic context' (2011):

She shall *be married to this* noble earl' (*Romeo and Juliet*, 3.4.21)
On Thursday next *be married to this* county (*Romeo and Juliet*, 4.1.49)

The sequence 'not to be gone' serves a similar purpose in both examples, as Juliet entreats Romeo to remain with her, while Capulet entreats his guests to stay for 'a trifling foolish banquet' (*Romeo and Juliet*, 1.5.121):

Nay, gentlemen, prepare *not to be gone* (*Romeo and Juliet*, 1.5.120)
Therefore stay yet. Thou need'st *not to be gone* (*Romeo and Juliet*, 3.5.16)

The final match that I could detect, 'God in heaven bless', similar to the oath 'by the Holy Rood' in *Richard III*, appears to be unique to this play, and

therefore provides strong evidence of a single author's recent memory as he composed his work. Both examples are uttered by the Nurse:

Now *God in heaven bless* thee (*Romeo and Juliet*, 2.3.183)
God in heaven bless her (*Romeo and Juliet*, 3.5.169)

These results would seem to support the notion that examinations of internal repetends within Shakespeare's plays can tell us about Shakespeare's individual idiolect and self-repetition in sole-authored texts and the dissimilarities involved in his collaborative ventures. An investigation of Act 3 in relation to the remainder of *2 Henry VI* could therefore contribute to discussions on whether the play is indeed collaborative.

The data that I present below conflicts with the hypothesis that Act 3 of *2 Henry VI* is distinct from other acts. Shakespeare averages 0.13 repetitions in Act 3 (6853 words), which is only slightly lower than the sole-authored *Richard III* and higher than *Romeo and Juliet*. In 1.1, which Craig argues is non-Shakespearean, the Cardinal Beaufort stresses that Gloucester 'is the next of blood / And heir apparent to the crown' (*2 Henry VI*, 1.1.149-150). In Act 3, which Craig gives to Shakespeare, Margaret, similarly to the Cardinal's caution, warns her husband that Humphrey 'is near you in descent, / And, should you fall, he is the next will mount' (*2 Henry VI*, 3.1.21-22). The formation 'he is the next' is employed to serve the same purpose in the Cardinal and Margaret's speeches respectively. The contiguous cluster of words seems to have been restimulated by the similar context of Margaret's caveat, and thus could signify unconscious repetition:

Consider lords, *he is the next* of blood (*2 Henry VI*, 1.1.149)
And, should you fall, *he is the next* will mount (*2 Henry VI*, 3.1.22)

The sequence 'oft have I seen', which cannot be found elsewhere in Shakespeare's dramatic corpus, occurs on three occasions in *2 Henry VI* (all with the exact same metrical template), which would seem to indicate a single author's storehouse of iambic phrases:

Oft have I seen the haughty Cardinal (*2 Henry VI*, 1.1.183)
Oft have I seen a timely-parted ghost (*2 Henry VI*, 3.2.161)
Oft have I seen a hot o'erweening cur (*2 Henry VI*, 5.1.149)

Another word sequence, 'Suffolk and the Cardinal', repeated three times during the course of the play, is less useful for identifying the play as collaborative or wholly by Shakespeare, and is influenced by the dramatis personae (and perhaps plot, for they are linked as villains) of the play:

The pride of *Suffolk and the Cardinal* (*2 Henry VI*, 1.1.201)
Yet am I *Suffolk and the Cardinal*'s broker (*2 Henry VI*, 1.2.101)
By *Suffolk and the Cardinal* Beaufort's means (*2 Henry VI*, 3.2.124)

However, a striking match occurs in the consecutive ten-word sequence 'Cold news for me for I had hope of France', followed by the discontinuous four-word sequence 'as I' with 'fertile England'. This sequence of words is memorable, and could very well have been deliberately repeated by Shakespeare or a co-author, although we might note that neither *Titus Andronicus* nor *Edward III* contain sequences remotely akin to York's asides:

Cold news for me – for I had hope of France,
Even as I have of fertile England's soil (*2 Henry VI*, 1.1.237-238)
Cold news for me, for I had hope of France,
As firmly as I hope for fertile England (*2 Henry VI*, 3.1.88-89)

We might observe that Duke Humphrey is referred to as 'good' three times in this play. However, a collaborator could also have drawn this association from Holinshed:

With 'God preserve *the good Duke Humphrey*!' (*2 Henry VI*, 1.1.160)
That virtuous prince, *the good Duke Humphrey* (*2 Henry VI*, 2.2.74)
They say, by him *the good Duke Humphrey* died (*2 Henry VI*, 3.2.250)

The final tetragram 'on a mountain top' is unique to this play. The sequence appears to be the product of the same author's imagination, for Suffolk asserts that 'Well could I curse away a winter's night, / Though standing naked on a mountain top' (*2 Henry VI*, 3.2.339-340), while Warwick states 'This day I'll wear aloft my burgonet, / As on a mountain top the cedar shows / That keeps his leaves in spite of any storm' (*2 Henry VI*, 5.1.202-204). Both passages concern harsh weather on a mountain, which the characters, figuratively speaking, are willing to endure. They could be considered examples of what J.R. Firth has called recurrent 'contexts of situation' (1957, 35). Craig acknowledges that 'Act V has a more mixed pattern' (Craig and Kinney 2009, 69) than other portions he attributes to Shakespeare's co-author/s.

Though standing naked *on a mountain top* (*2 Henry VI*, 3.2.340)
As *on a mountain top* the cedar shows (*2 Henry VI*, 5.1.203)

For the sake of comparing 'like to like' (Vickers 2011, 122), I conducted searches for rare tetragrams shared between the third act of *Titus Andronicus* and the remainder of the play, as well as the third act of *Edward III* and the remaining four acts. This test is identical to the tests that I applied to *Richard*

III, *Romeo and Juliet* and *2 Henry VI*, and can help us see if there is a difference in the patterns of repetition between the third acts of collaborative and non-collaborative plays, in relation to the remainders of each text. There are three repetitions (giving us an average of 0.09) in Act 3 of *Titus Andronicus*:

Titus Andronicus, *my lord the Emperor* (*Titus Andronicus*, 3.1.150)
Whiles I go tell *my lord the Emperor* (*Titus Andronicus*, 5.2.138)
My lord the Emperor, resolve me this (*Titus Andronicus*, 5.3.35)

All of these parallels are shared between scenes attributed to Shakespeare. The third repetition, 'Come, let me see', is spoken by Titus in the lines '*Come, let me see* what task I have to do' (*Titus Andronicus*, 3.1.274) and 'Sirrah, hast thou a knife? *Come, let me see* it' (*Titus Andronicus*, 4.3.107). Both examples are delivered by the eponymous character during his search for 'Revenge's cave' (*Titus Andronicus*, 3.1.269), although it could be argued that such 'formulae fulfil various transitional functional purposes relating to general stage business and plot progression' (Petersen 2010, 99) in early modern texts. Similarly, the one rare tetragram I could detect in the third act of *Edward III*, the formulaic line-opening 'My gracious father and', delivered on both occasions by Prince Edward, in the lines '*My gracious father, and* these other lords' (*Edward III*, 1.1.92) and '*My gracious father and* ye forward peers' (*Edward III*, 3.3.206), features in scenes that Vickers attributes to Kyd. We should note that the formation 'My gracious father' occurs in Kyd's *The Spanish Tragedy* (1587), where it appears in Lorenzo's line: '*My gracious father*, beleeue me, so he doth' (2.14.86). Act 3 of *Edward III* contains 0.02 repetitions of the remainder of the play.

When analysed closely, these rare parallels repeated by Shakespeare and Kyd respectively signify authorial associative groupings, but the overall lower figures are indicative of collaborative plays, as opposed to a single author's linguistic resources employed throughout the texts. There seems to be a disparity of data when we compare the third acts of the collaborative plays *Titus Andronicus* and *Edward III*, which yield three tetragram repetitions and one tetragram respectively, with the sole-authored plays. The third act of *Richard III* contains nine tetragram repetitions and one pentagram. *Romeo and Juliet* yields six tetragram repetitions, one pentagram and one heptagram. *2 Henry VI* yields seven tetragram repetitions, one pentagram and one striking decagram.

It is intriguing that rare tetragrams are shared between Act 3 of *2 Henry VI* and every other act of the play except Act 4, which features Jack Cade. Craig argues that 'certainly' the Cade scenes 'are detachable from the rest of the play' (Craig and Kinney 2009, 70). We might observe, however, that there is only one rare tetragram match with the fourth act of *Richard III*, which has a similar pattern of parallels distributed throughout the play. While the verbal evidence suggests that Shakespeare's hand can be detected not only in

Act 3 but the first, second and fifth acts of *2 Henry VI*, it seems prudent to test Act 4 against the remainder of the play to see if the Cade rebellion does indeed 'stray beyond the bounds of Shakespearean style in a way quite unlike other early plays we know to be Shakespeare's' (Craig and Kinney 2009, 76).

Before I present my findings for Act 4 of *2 Henry VI*, I must add this caveat: tetragrams often serve similar functions in terms of verse structure. I would suggest that Elizabethan dramatists were more likely to repeat four-word sequences in the same prosodic positions, such as formulaic line-openings or line-endings. We are therefore less likely to find iambic phrases repeated in prose sections. This would go some way to explain why (hypothesising that *2 Henry VI* was written wholly by Shakespeare), in my third act tests, there are rare matches with all of the remaining acts except Act 4, which features much prose. Mueller, having tested 'whether POS n-grams distinguish sharply between prose or verse' in Shakespeare's plays, observed that 'The differences between prose and verse are more striking than other differences. This suggests the rule of thumb that one should always measure prose and verse separately' (2008). Close analysis of the contextual dissimilarities between Peele and Shakespeare parallels would seem to provide evidence of separate authorial imaginations. It would thus seem that, despite the key differences between prose and verse, such reading-based methods still have a place in modern authorship attribution studies.

I could detect five n-grams of four or more words (with six repetitions in total) shared between Act 4 and the remainder of the play, which gives a figure of 0.09 repetitions. The first match is the name 'William, de la Pole', which seems unremarkable, although it is interesting that its one other appearance in Shakespeare's corpus features in a scene commonly attributed to him in *1 Henry VI*, the Temple Garden scene, in the line 'Away, away, good *William de la Pole*' (2.4.80).

French King Charles and *William de la Pole* (*2 Henry VI*, 1.1.42)
And *William de la Pole*, first Duke of Suffolk (*2 Henry VI*, 1.2.30)
The Duke of Suffolk, *William de la Pole* (*2 Henry VI*, 4.1.46)

We might note that the title, 'Mortimer, Earl of March', concludes verse lines in both six-word sequences presented below, as well as in *3 Henry VI*: 'Thy grandfather, Roger *Mortimer, Earl of March*' (*3 Henry VI*, 1.1.106).

Who *married Edmund Mortimer, Earl of March* (*2 Henry VI*, 2.2.36)
Marry this: *Edmund Mortimer, Earl of March*,
Married the Duke of Clarence' daughter (*2 Henry VI*, 4.2.134-135)

The formulaic line-ending 'the heart of France' also features in *3 Henry VI*, in the line 'His father revelled in *the heart of France*' (*3 Henry VI*, 2.2.150).

Thy late exploits done in *the heart of France* (*2 Henry VI*, 1.1.194)
Will he conduct you through *the heart of France* (*2 Henry VI*, 4.7.191)

The pentagram 'the reason of these arms', consisting of the three function-units 'the reason', 'of these' and 'arms', is unique to this play. Buckingham is ordered by the King to 'go and meet' York, and 'ask him what's the reason of these arms' (*2 Henry VI*, 4.8.37-38). The line is therefore repeated by Buckingham at the beginning of Act 5, and suggests common authorship of these scenes:

And ask him what's *the reason of these arms* (*2 Henry VI*, 4.8.38)
To know *the reason of these arms* in peace (*2 Henry VI*, 5.1.18)

The last rare tetragram I could detect is the formation 'to do me good', which can also be found in Marlowe's *Edward II* (1592) as 'They would not stir, were it *to do me good*' (*Edward II*, 1.4.95).

And will they undertake *to do me good*? (*2 Henry VI*, 1.2.77)
was born *to do me good* (*2 Henry VI*, 4.9.10)

Marlowe is Craig's primary candidate for the authorship of the Cade scenes. *He observes that* 'The likeness of Marlowe in style and vocabulary' is 'strong in IV.iii–ix', but 'does not extend to IV.ii' (Craig and Kinney 2009, 73), in which I have highlighted the six-word sequence 'Edmund Mortimer, Earl of March / Married' (*2 Henry VI*, 4.2.134-135).

If we omit 4.2 from the tests, we are given an average of 0.10 repeated phrases between the selected scenes and the remainder of the play. Vickers has criticised Craig's attribution, for Marlowe 'used little prose in his sole-authored works', while the 'linguistic and dramaturgic means' employed to keep Cade 'in his place' (Vickers 2011, 125) are not found in Marlowe, but are typical of Shakespeare. Mueller notes that 'Shakespeare shares far more n-grams with Marlowe or Thomas Heywood than with any other writer', and that 'In the case of Marlowe, the n-grams involve links between *Edward II* or *The Massacre at Paris* with the three parts of *Henry VI*, *Richard II* and *King John*' (2011). Mueller's findings suggest that Shakespeare was indeed prone to 'imitating Marlowe's diction and syntactic habits' (Craig and Kinney 2009, 76), although it is not unreasonable to conjecture that Marlowe could also be indebted to Shakespeare's early works. Furthermore, Marlowe is a particularly difficult authorial case, given the possibly collaborative and corrupted nature of some of his texts. We might ask ourselves: if Marlowe is the author of most of Act 4, and Shakespeare the author of Act 3 of *2 Henry VI*, is a third dramatist responsible for 4.2 (the largest sample in the play's fourth act)? Jackson agrees with Vickers that 'Any findings concerning Marlowe – and

particularly Craig's identification of his hand is some scenes of *1* and *2 Henry VI* – must be tentative' (2014, 46).

It would seem that the overall data I have presented here renders *2 Henry VI* closer to the sole-authored Shakespeare plays than the collaborative works. I would suggest that close-textual analyses of internal verbal parallels could add to our knowledge of authorial associative groupings during composition, as well as the working relationships between co-authors. I would also like to add that although I have tested the third and fourth acts against the remainder of *2 Henry VI*, in accordance with Craig's argument that these portions are detachable or distinct in terms of style, we should be careful in our assumptions of authorial divisions of labour. Attribution studies have demonstrated that collaborating authors did not always divide their labours according to acts. As Richard L. Nochimson has observed, 'out of 162 opportunities there are only two where Henslowe chose words that to me suggest some kind of possibility of reading into Henslowe's language a hint at' dramatists 'dividing the work by acts' (Nochimson 2002, 45). Vickers' divisions of authorship in *Titus Andronicus* and *Edward III* suggest that Shakespeare and his collaborators often worked scene by scene, and that such divisions were often influenced by character, theme and plot. Dividing plays according to act divisions appears to be useful for investigations of internal parallels, but such investigations should be recognised as potential first steps in establishing whether a text is collaborative or not. Closer scrutiny of the portions with high or low quantities of parallels, and examinations of the nature of repeated phrases, would seem to be a sensible progression.

As with any form of linguistic analysis of early modern plays, there are textual complexities involved in this methodology, which should be noted. For example, could recurring function words/units and word sequences be the result of scribal or compositorial interference, as well as the theatrical vernacular of certain acting troupes and/or repertoires?[6] Also, are some of these formulas, as Lene B. Petersen might argue, oral-formulaic rather than author-specific? Some of the word sequences I have listed could very well pertain to oral-transmission influence on the Folio texts, but I would argue that many of them signify distinctly authorial patterns of thought through their contextual similarities and recurring metrical characteristics. These seemingly authorial patterns appear to be more prominent in Shakespeare's sole-authored Folio texts.

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[6] I would argue that *The first part of the Contention of the two famous houses of Yorke and Lancaster* (1594) is likely to contain high frequencies of recurring internal parallels, as reporters drew upon formulaic vocabulary from other plays in the repertory, and struggled to recall passages from Shakespeare's 'authentic' text. Internal tetragrams are therefore considerably less useful as authorship markers in such texts, although it would be interesting to examine the relationships between 'memorial' variants and the Folio plays, in terms of internal parallels.

It would be interesting to see if Shakespeare unconsciously repeated himself more or less frequently as he progressed as a playwright, and whether the patterns of self-repetition in his plays distinguish him from his contemporaries.[7] It seems to me that if Elizabethan playwrights were governed by a muse, it was Mnemosyne, the muse of memory. Perhaps the next step in attribution studies would be a similar methodology applied to Shakespeare's whole corpus, or what we might call his 'books of memory' (*2 Henry VI*, 1.1.97).

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[7] For example, I suspect that Peele, whose verse is often repetitive and monotonous (with a heavy reliance on formulaic utterance), was apt to repeat himself more frequently than Shakespeare.

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