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# VERSE ATTRIBUTION: *HENRY VIII*

**1. Introduction.** The aim of this paper is to demonstrate that linguistic-statistical analysis of verse form is a reliable tool in verse attribution. Eighteen tests are applied to a play whose double authorship has been suggested by other scholars using different methodologies. If our results agree with their conclusions and illuminate more subtle differences between the co-authors' versification styles, our methodology can be (and has been!) applied to texts of unknown or dubious authorship [1].

Some sciences, such as mathematics, physics or astronomy, lend themselves to deductive constructs and insights; proofs of deduced models are often found in later experiments. But there are areas of knowledge where deductions do not work, where theories must be based on empirical research. The study of versification cannot be based on "gut feelings" and intuitions; it requires a lot of empirical research. The relevant features of a versification style are not so much "metrical/unmetrical" but frequency: how much and how often. Scholars have been using this approach for over 200 years in Classical philology, and in the "Russian school of metrics" for exactly 100 years. I hope that my "western" colleagues will also read this paper: I am writing in English with this aim in mind. Therefore I am explaining certain things that, I know, are familiar to my "Russian school" colleagues.

The main corner-stones of the "Russian school" approach are three.

(1) Meter/rhythm opposition. Meter is an abstract scheme, while rhythm is actual stressing in actual texts. Verse meter imposes constraints on the selection and combination of words in a particular language, and the language material, in its turn, influences the meter as it has developed in a particular literature. For example, frequent missing stresses in the Russian iamb and numerous extra-metrical stresses in the English iamb have developed under the pressure of their languages. Verse form, in its turn, influences selection and combination of language material. Here is an English example of a link between verse rhythm and grammar. Fairly frequent lines of the rhythmical type *ta-TA-ta* | *TA* | *ta-TA* | *ta-TA-ta* | *TA* are almost always filled with the grammatical pattern *Adjective-Noun-Verb-Adjective-Noun*: *His angry* | *steed* | *did chide* | *his foaming* | *bitt*; *And mighty* | *hearts are held* | *in slender* | *chains*; *The rudest* | *Brute* | *that roams* |*Siberia's* | *wild*; *And full-grown* | *lambs* | *loud bleat* | *from hilly* | *bourn*; *That hoary* | *man* | *had spent* | *his lifelong* | *age*, etc. (Spenser, Pope, Byron, Keats and Shelley). The first nominal group is usually the subject, the second, verbal

group, is a predicate, and the last nominal group is a complement. This is no accident. Many adjectives have feminine, suffixed tails (*speechless*, *tearful*) while verbs have long prefixed «necks» but masculine endings: *unlock*, *misspend*. The line rhythm *ta-TA-ta* | *TA* | *ta-TA* | *ta-TA-ta* | *TA* attracts particular parts of speech arranged in a predictable order; a recurrent syntactic pattern emerges.

The "Russian school" differentiation between meter and rhythm influenced American linguists: Morris Halle read and reviewed Russian "formalists" [Halle 1968].

(2) Statistics. To discover the particulars of a verse form in a language and a literary tradition, we need to do a lot of counting. Only empirical data catch the idiosyncrasies of a poetic tradition, a period, and a poet. What is metrical or "unmetrical" is also settled empirically. First, we need to prove that a text is, say, iambic: we calculate the mean difference between even and odd syllables. This is far from trivial: Donne's *Satyres* have features of syllabic verse, but they are still iambic: in a truly syllabic text the difference between even and odd syllables is closer to zero. Next, we find out what line types are used seldom or just once in the given period and oeuvre. E. g., Keats's line *How many bards gild the lapses of time* (*Sonnet IV*: 1) is an exception in Romantic poetry, while a rhythmically similar line *Here lies your way. Bless the founders, I say* (Fletcher, *Bonduca*, 2.3: 138) is common for Jacobean poets. Lines acceptable to Shakespeare seemed barbarous to Pope. Frost's line *And accommodate her young life to his* (from an iambic poem *A Servant to Servant*, 129) is "unmetrical" even for Frost, but like the line from Keats, composed for a semantic purpose.

(3) Texts. No present-day interpretations, no intuitions or analyses of recitations, but only texts themselves contain clues as to what Shakespeare or Pope considered iambic. Knowing the extra-linguistic situation is helpful, yet only the text itself contains the keys to its versification particulars.

My primary interest used to be theory and history of English versification ($12^{th}$—$20^{th}$ cc.); now I concentrate on attribution of Elizabethan plays. I shall illustrate my work in attribution with Shakespeare's last drama *Henry VIII*. Shakespeare co-authored it with a young Jacobean poet John Fletcher.

**2. Terminology. Tests.** The meter of our plays is iambic pentameter, a string of weak (W), and strong (S), syllabic positions: W S W S W S. S positions allow a certain number of missing stresses, and W — some extra-metrical stresses. A line contains phrases, and those are segmented into metrical words — phonetic words with its stress on S. Adjacent metrical words are separated by a word boundary. Metrical words may contain both unstressed and stressed monosyllables: *But thou* | *contracted* | *to thine own* | *bright eyes; To eat* | *the world's due*, | *by the grave* | *and thee* (*Son*. 1: 5, 14).

For attribution, I use 18 tests; ten of them are described below.

Test 1: syntactic breaks, percent of strong syntactic breaks after each syllabic position from the total number of lines. I differentiate three degrees of syntactic affinity between adjacent metrical words: a close link, e. g., between a modifier and a modified noun: *of winter's* | *day* (*Son.* 13: 11); a medium link: e. g., between adjacent words that have no immediate syntactic link: *My heart* || *my eye* || *the freedom* | *of that right* (*Son.* 46: 4); and a strong break between sentences and clauses: *To mend* | *the hurt* ||| *that his unkindness* || *marred* (*Venus and Adonis*: 479). Punctuation is disregarded.

In a strict iamb, the most frequent syntactic break occurs after position 4, as in (a), in a looser iamb — after position 6 (or even 7 or 8), as in (b), see *Chart 1*:

> (a) By east and west, /4/ as Phoebus doth his course.
> Lie here, ye weeds /4/ that I disdain to wear!
>
> (Marlowe, 1 *Tamburlaine*, 1, 1: 40-41)

> (b) But, as I grew in years, /6/ I grew in sense
> Of fear and of disdain /6/ — fear of the tyrant...
>
> (Ford, *Perkin Warbeck* 2.1: 61–62)

Test 2: stressing. We calculate percent of stresses on each syllabic position from the total number of lines: the so-called s t r e s s p r o f i l e o f t h e t e x t. In a strict iamb, positions 4 and 10 are stressed particularly often, while missed midline stresses are especially frequent on position 6: *The poorest service is repaid with thanks* (*The Shrew*, 4.2: 45). In a looser iamb, the midline "dip" in stressing shifts to position 8: *For Livia and Octavia; to induce...* (*Antony and Cleopatra*, 5.2: 168). See *Chart 2*.

Stressing and syntax are linked: frequent stresses on position 4 and a loss of stress on 6 in a strict iamb accompany frequent breaks after positions 4 or 5, as in (a). In a looser iamb, stresses are missed on position 8, and the most frequent breaks occur after positions 6 or 7, as in (b):

> (a) Oft w i t h true sighs, /4/ oft w i t h uncalled tears,
> Now w i t h slow words, /4/ now w i t h dumb eloquence...
>
> (Sidney, *Astrophyl and Stella* 61: 1–2)

> (b) Here's all /2/ that I dare answer; /7/ w h e n a ripeness...
> King Henry, /3/ o u r great master, /7/ d o t h commit...
>
> (Ford, *Perkin Warbeck* 1.2: 160, 1.3: 2)

Test 3: proclitic and enclitic micro-phrases. "Proclitics" are metrical words with a stressed monosyllable on W preceding a stress on S, as in *fair chíld*. "Enclitics" are phrases with a stressed monosyllable on W following a stress on S, as in the seg-

ment *How múch more* (*Son* 2: 10, 9). I calculate the ratio of each type of phrase per 1000 lines of a text. Early Elizabethans used few enclitic phrases (Kyd, *The Spanish Tragedy*: only 16.7 per 1000 lines), later Jacobean poets — a lot (Fletcher, *Bonduca*: 268.7 per 1000 lines).

Tests 4–6: line endings, in percent from the total number of lines.

— Syllabic: masculine and feminine (rarely, longer). Feminine: simple, compound: *...not seéming, ...afflíct you; ...my thróat cut* (Webster, *The Duchess of Malfi* 1.2: 224, 4.2: 239, 321).

— Accentual. Masculine endings: stressed and unstressed. Unstressed masculine endings are caused by an unstressed syllable of a polysyllabic word, e. g., *And descant of my own deformity* (*Richard III* 1.1: 27), or by an unstressed monosyllable, e. g., *Tell me how Wales was made so happy* ***as***... (*Cymbeline* 3.2: 60).

— Accentual. Compound feminine endings: unstressed (light) and stressed (heavy), as in *...afflíct you; ...my thróat cut*: stresses on 10 and 11, typical of Jacobean verse.

— Syntactic. Medium and strong links between lines cause run-on lines:

> Evil-eyed unto you. You're my prisoner, but →
> Your gaoler shall deliver you the keys...
>
> (*Cymbeline*, 1.1: 72–73)

Test 7: Rhythm and meaning. Groups of two and more adjacent syllables whose stressing deviates from the meter are called rhythmical figures. These are sometimes used to emphasize the meaning of a micro-situation, not unlike onomatopoeia; this device had become a poetic convention. Rhythmical figures that support meaning are usually coupled with action. Examples, on positions WSW: *Shore the old thread in twain...*, instead of something regular, like *And shore the thread in twain*; *Wrench his sword from him...*, instead of something like *O wrench his sword*. On positions SW: *When your eyes roll so...*, instead of the regular *You roll your eyes*; *...and the moon winks*, instead of *...the winking moon* (*Othello* 5.2: 209, 290, 41; 4.2: 78). I calculate the number of such cases per 1000 lines.

Test 8. Disyllabic suffix *-ion*, *-ious* per 1000 lines of the text. The disyllabic variants (*sus-pi-ci-on*, *sus-pi-ci-ous*) are more frequent in the works of older Elizabethan poets, but not always; Peele, for example, used them seldom, while Marlowe — very frequently in both *Tamburlains*, but not in the earlier *Dido* and the later *Edward II*. The use of disyllabic *-ion* is a still little explored problem in dialectal and social phonology. Fletcher, surprisingly, used disyllabic *-ion*

relatively often, more so than the older Shakespeare. Its ratio may be one indicator of Shakespeare's vs. Fletcher's authorship.

Test 9. Pleonastic *do*, as in *This noble isle doth want her proper limb* (Shakespeare, *Richard III* 3.7: 125). Pleonastic *do* is more typical of the older generation of Elizabethan poets.

Test 10. Grammatical inversions, subject /predicate, verb /object, modifier / modified noun: *It is a quarrel just and reasonable* (*Richard III*, 1.2: 36). Inversions are again more typical of older poets (and of rhymed verse).

**3. Evolution in Shakespeare's verse**, in a nutshell.

Strong syntactic breaks. Shakespeare went from 4 + 6 line to 6 + 4, as did other Elizabethan poets (see *Chart 3*).

Stressing. Missing stresses in midline. The "dip" in the midline moved from position 6 to position 8, again in the way other Elizabethan-Jacobean poets did (*Chart 4*).

Missing stresses on masculine endings, position 10. In early Shakespeare these are caused by polysyllabic words only (*...my deformity*), while late Shakespeare used numerous unstressed monosyllables that create run-on lines: *I was about to say, enjoy your — **but** / It is an office of the gods to venge it* (*Cymbeline* 1.5: 91-92).

Enclitic phrases grew in frequency from earlier to later plays: *The Two Gentlemen of Verona* — 32.3, *The Tempest* — 92 per 1000 lines.

Line endings. (a) Syllabic. Beginning with 2 *Henry IV*, the number of feminine endings grows, and keeps growing. From *Much Ado* through *Antony and Cleopatra* it is in the twenties, in *Coriolanus* and later plays — in the thirties, in *The Tempest* — 35.6 percent of feminine endings. (b) Accentual. Stressing of masculine endings: see above, in "Missing stresses..." Heavy feminine endings are rare even in late Shakespeare: only 0.6 percent in *The Tempest.* (c) Syntactic. Run-on lines grow in number: Shakespeare begins with under 10 percent in *The Shrew* and ends with 42 percent in *The Tempest.*

Disyllabic *-ion, -ious*: their number falls in later plays: cf. 1 *Henry IV* — 20.1, *The Tempest* — 1.5 per 1000 lines. In most previous generation poets these are quite numerous: in Marlowe's 1 *Tamburlaine*, 38.9 per 1000 lines.

Rhythm / meaning. Shakespeare gradually became more skilled in using rhythmical figures to emphasize meaning: *The Shrew* — 42.0, *Richard III* — 71.2, *Midsummer Night's Dream* — 133.4, *Henry V* — 138.6, *Macbeth* — 194.7, *The Tempest* — 206.2. Plays dealing with violence and war stand out. E. g., *Stabbed in my angry mood...*; *I'll have this crown of mine cut from my shoulders*; *Wept like two children...* (*Richard III*, 1.2: 241, 4.1: 55, 4.3: 28), *Puffed his own brother...*; *Seem to cast water...* (*Othello*, 3.4: 141, 2.1: 14).

**4. Shakespeare and Fletcher in *Henry VIII*.** The two versification styles in *Henry VIII* are different in many ways, but my predecessors mostly noticed the prevalence of feminine endings in Fletcher's scenes (see a review of attribution studies of *Henry VIII* in Brian Vickers's *Shakespeare, Co-author* [Vickers 2002: 333–432]). Literary critics also found changes in the characters of Queen Katharine and Cardinal Wolsey: in Shakespeare's scenes: Queen Katharine is a proud, intelligent woman fighting for her rights, in Fletcher's — a meek and resigned loser. Cardinal Wolsey, an arrogant and shrewd politician, turns into a repentant weakling.

I analyzed each scene of *Henry VIII* separately and combined scenes with similar features into two blocks — Shakespeare's and Fletcher's. To compare these with Shakespeare's later style and with Fletcher's in a *solo* play, I use Shakespeare's *Tempest* and Fletcher's *Bonduca*. All three plays were written at about the same time, between 1611 and 1613.

Syntactic breaks. Fletcher, both in *Bonduca* and in his scenes in *Henry VIII* had moved the main break closer to the end of the line. The maximum is not after position 6, as in later Shakespeare, but after 7 (see *Chart 5*). Fletcher's line structure is 7 + 3 or even 7 + 4, in the numerous lines with feminine endings; these create more space in the second half-line.

Stressing. Midline stressing on S is not too different: both poets follow the Jacobean style of a "dip" on position 8. But extra-metrical stresses on W are more numerous in Fletcher's verse (see *Chart 6*).

Enclitic phrases are Fletcher's favorite rhythm: almost 270 per 1000 lines, while in *The Tempest* — 92 per 1000 lines; this is a very high number for Shakespeare, but it is three times less frequent than in *Bonduca*, e. g.: *Come thither: 'tis for those the góds love, goód men* (*Bonduca* 4.2: 13). In the Shakespeare portion of *Henry VIII* enclitics occur 68.6 times per 1000 lines, in Fletcher's portion — 226.5 per 1000 lines, three times more often! These occur both within the line and at the end of the line, creating heavy feminine endings: *Even as the áxe falls, if I be not faithful! Who undertakes you to your end. Prepáre there*! (*Henry VIII* 2.1: 61, 97).

Line endings: syllabic structures, stressing and syntax.

— Feminine endings (*Chart 7*) are extremely numerous Fletcher's texts: 66.8 percent of all lines in *Bonduca*, 63.4 in the Fletcher block of *Henry VIII*. Shakespeare: 35.6 in *The Tempest*, 33.5 in the Shakespeare block of *Henry VIII.* Fletcher often used heavy feminine endings (enclitics at the end of the line, on position 11), as in *Yet for all that I see him lodg'd. Take móre men* (*Bonduca*, 5.2: 110); *Fell by our servants, by those men we lóved most* (*Henry VIII*, 2. 1: 122).

— Stressing of syllable 10 in masculine endings (*Chart 8*). In Shakespeare's texts, most missed stresses on 10 are caused by mono-

syllables (*and*, *if*, *I*, *that*) — grammatical words that create run-on lines, while in Fletcher's text — only by polysyllables (*unmannerly*, *solicited*, *ambassador*).

— Run-on lines in Fletcher's texts are very few, compared to Shakespeare's: in *The Tempest*: 42 percent of all lines are run-on, in the Shakespeare block of *Henry VIII* — 46 percent while in *Bonduca* — only 17 percent; in Fletcher's scenes of *Henry VIII* — 28 percent. Thus, numerous feminine endings, particularly heavy feminine endings, and no unstressed monosyllables on position 10 preclude run-on lines, while few feminine endings, particularly few heavy feminine endings, and many unstressed monosyllables on position 10 stimulate run-on lines (*Chart 9*). Shakespeare and Fletcher experimented with mutually excluding tendencies: Shakespeare — with relatively few feminine endings, many unstressed monosyllables on position 10, and, consequently, frequent run-on lines, while Fletcher — with many feminine endings, particularly heavy feminine endings, no unstressed monosyllables on 10, and so, consequently, few run-on lines. Both poets, it seems, tried to re-create colloquial, everyday speech, but in different ways.

Meter and meaning. Fletcher learned the skill from Shakespeare: both used quite a lot, every fifth line.

Disyllabic *-ion* are very few in later Shakespeare's texts, but, for some reason, quite numerous in Fletcher's: in *The Tempest* — only 1.5 per 1000 lines, in *Henry VIII* 2.6, while in *Bonduca* — 10 per 1000 lines, in Fletcher's parts of *Henry VIII* — 14 per 1000 lines: much more frequent. Do these point to social, educational or territorial variations?

Pleonastic *do* are much more frequent in Shakespeare's texts than Fletcher's: 42.8 per 1000 lines in Shakespeare's portion *of Henry VIII*, and only 3.7 in Fletcher's: Shakespeare was an older poet, cf. Greene or Kyd [2].

Grammatical inversions are also more frequent in Shakespeare's scenes of *Henry VIII* than in Fletcher's (12.4 vs. 3.6 percent of the lines in *Henry VIII*). A frequent use of grammatical inversions is one more signs of an older generation poet.

**5. Conclusions**. The "Russian school" approach can serve as a firm basis for differentiating poetic traditions, periods, and poets, thus, the basis of a realistic, not abstract, theory of versification. This approach has proved a reliable tool in poetic attribution.

## NOTES

[1] All information about English, Elizabethan, Shakespeare's verse comes from [Tarlinskaja 1976; 1987], numerous published articles and current research.

[2] The problem was discussed at length in an e-mail correspondence with Prof. Donka Minkova of UCLA, a specialist in Old English and Middle English phonology. I am

grateful to Prof. Minkova for sharing her guesses with me. Helge Kökeritz, in his authoritative *Shakespeare's Pronunciation* [Kökeritz 1974: 293–294] only states that disyllabic *-ion*, *-ience*, *-ient* etc. were typical of older, more conservative pronunciation, but does not comment on possible social or territorial variations.

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## Appendix

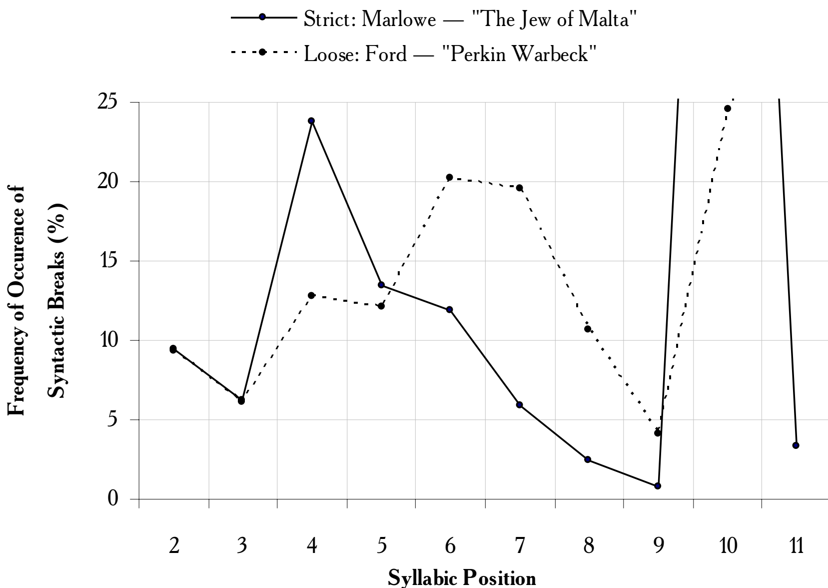

**Chart 2: Strict and Loose Iambic Pentameter**

**Frequency of Stresses on Srong Syllabic Positions**

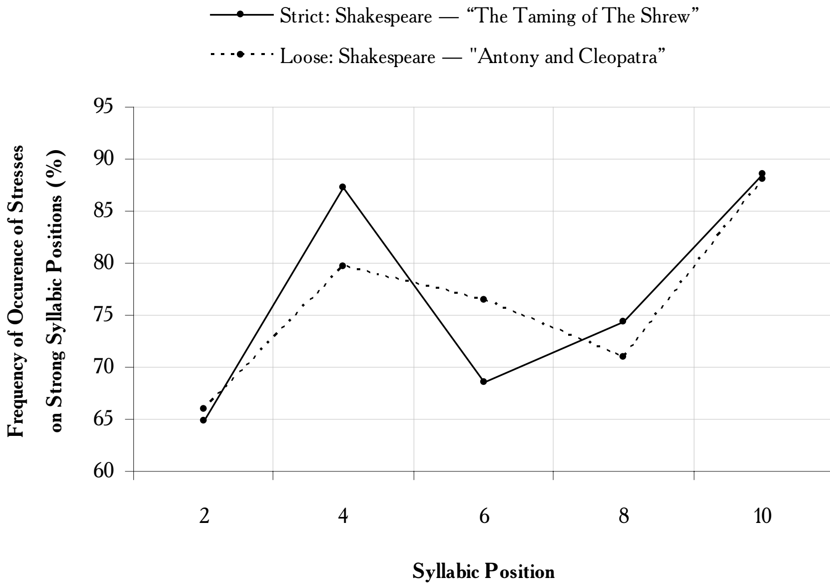


**Chart 3: Shakespeare's Evolution**

**Frequency of Syntactic Breaks**

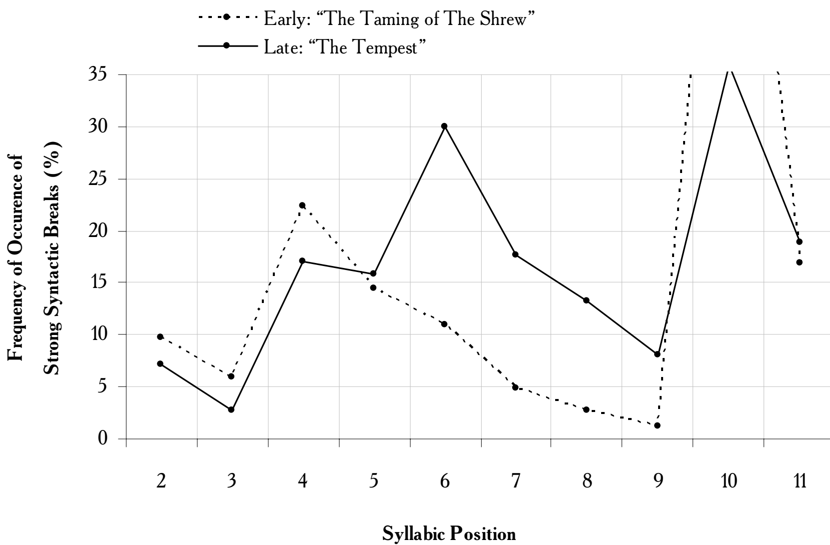

**Chart 4: Shakespeare's Evolution**

**Frequency of Stresses on Strong Syllabic Positions**

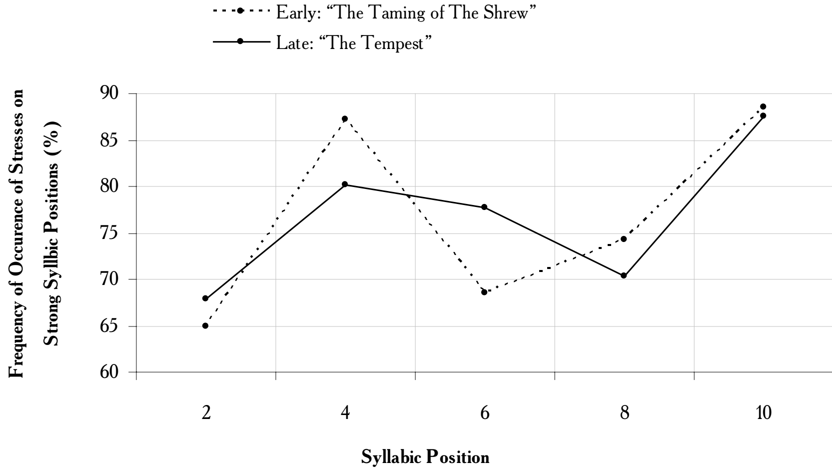


**Chart 5: Shakespeare and Fletcher**

**Frequency of Syntactic Breaks**

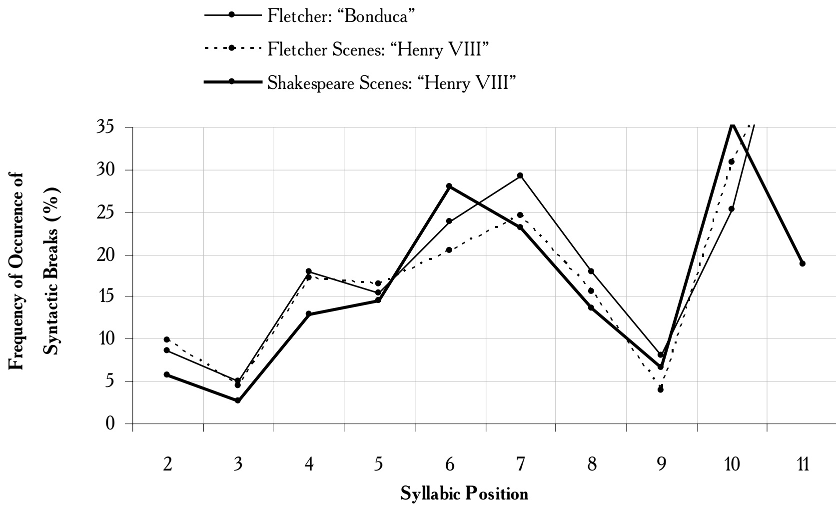

**Chart 6: Shakespeare and Fletcher**

**Extra-Metrical Stresses on Weak Positions**

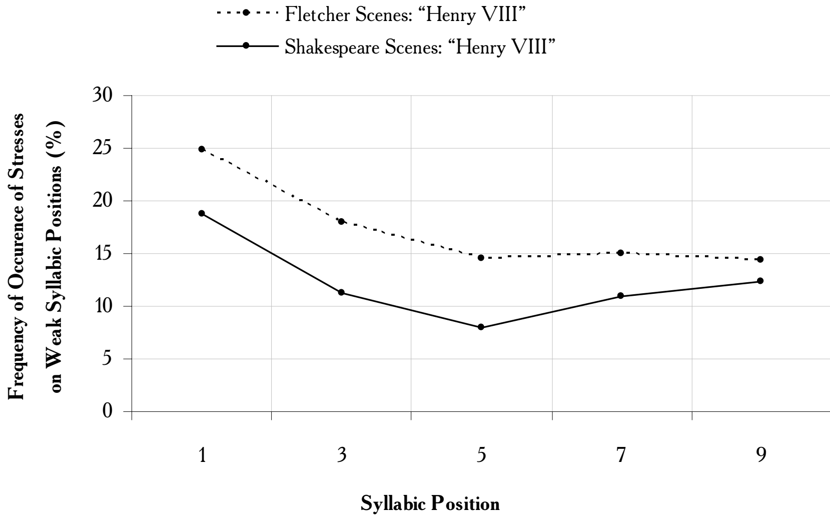


**Chart 7: Shakespeare and Fletcher**

**Feminine Line Endings**

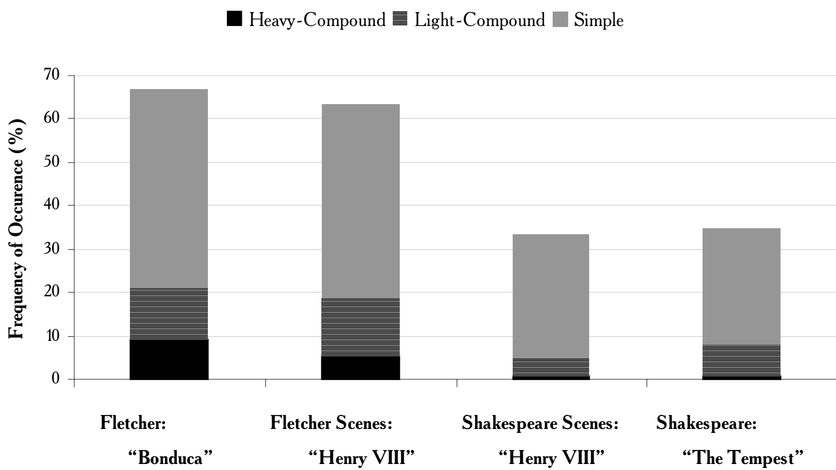

**Chart 8: Shakespeare and Fletcher**
**Masculine Line Endings;**
**Loss of Stress Position 10**
**Caused by Monosyllables and Polysyllables**

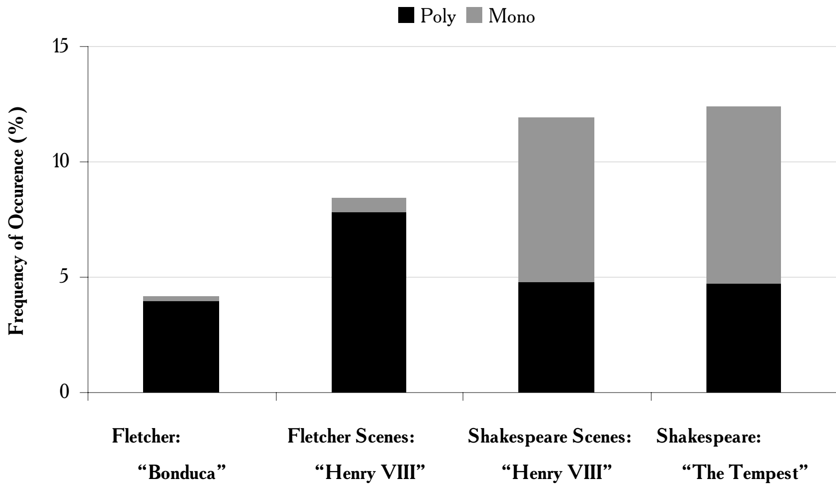


**Chart 9: Shakespeare and Fletcher**
**All Line Endings;**
**Run-On Lines**