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A Statistical Analysis of the Metrics of the Classic French Decasyllable and
Classic Alexandrine

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by

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A Statistical Analysis of the Metrics of the Classic French Decasyllable and Classic Alexandrine

0. Introduction

In traditional analyses of the Classic French decasyllable, the line is assumed to obey only a very small number of constraints. This dissertation is an effort to see if there might be a more elaborate pattern underlying these lines. The premise here is that such a pattern may be discoverable if one examines statistical rather than categorical patterns in the verse.

There will be four major parts. In the first section, I will discuss the distinction between metrics and generative metrics, reviewing traditional rules of certain meters as well as discussing the additions in generative metrics of Kiparsky (1975), (1977), Verluyten (1989) and Bowers (1982) to the traditional analyses of the line. I will also discuss the particular difficulties to be encountered when analyzing the placement of stress in French and propose a system of rules to be applied to help in objectively assessing stress in French poetry. I will show that this system proves reliable when compared against the assessments of other metricists and also when compared against the speech patterns of poetry readers.

In the second part, I will explain the statistical approach that I have taken in this dissertation, detail the works the data was collected from, explain how I collected the data and explain the use of statistical tests to determine the significance of the data that have been collected.

In the third section, I will discuss the results in detail, pointing out the idiosyncracies of each poet, as well as the idiosyncracies between poets

In the fourth section, I will discuss the underlying patterns and preferences that are present to some degree in the filter of each poet as he writes his verse. I will then posit a theory as to the underlying nature of the Classic French decasyllable and give a preliminary impression of what the initial statistics for Classic French Alexandrine indicate.

Aligning the realized form in (1b) with the underlying iambic pattern is achieved through an understanding of the correspondence rules that permit variations in the line under specific environments. In the example in (1b) the relevant correspondence rule is that stress inversion is permitted after a syntactic break of some significance.

This way of viewing the line differs sharply from the alternative method of viewing certain lines as canonical and all other variants on the form as in violation of the established pattern.

1.1 Principles of Metrics

When we take an overview of the metrical traditions across the world's languages we see diversity and complexity but also common threads. The meters may be based on syllable count, stress patterns, tone combinations, alliteration, heavy and light syllables and so on, yet their rhythmic deployment is often similar. The use of stress within the metrical structure of one language for example may operate similarly to the use of syllable quantity in another, or long and short vowels in one language may function as stressed and unstressed syllables in another. One of the more prevalent tendencies across languages is for the linguistic material of a language to reflect the underlying pattern with particular faithfulness at some point in the line.

An apparent metrical universal is that all metrical traditions have some degree of correspondence between the grouping or bracketing of the metrical

pattern and the phonological phrasing of the text. For example, all metrical poetry is composed in lines, the terminals of which virtually always coincide with phonological breaks of some degree of strength.

Yip (1984) found that phonology, syntax and tone echoed the underlying metrical pattern in early Chinese verse. The early line was predominantly composed of four syllables formalized by Yip as follows (example is also from Yip):

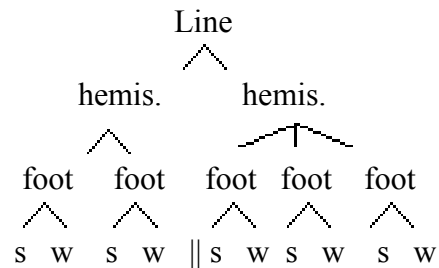
(2)



Yip noted that the break after the second position (first foot) of the tree was echoed at three distinct linguistic levels: (1) the syntax which placed division between NP (Noun Phrase) and VP (Verb Phrase) most commonly after the second position; (2) the phonology which alliterated in either foot but ‘never spanning the central break’; and (3) the tone (only relevant in later verse) which had to be the same within a foot.

Jakobson (1952) noted also that in Serbo-Croatian verse the phonological phrasing was closely paired with the metrical structuring of the line. The line was composed of five trochaic binary feet, with an obligatory pause after the second binary foot. The structure of the line was formalized by Hayes (1988) as follows:

(3)



Jakobson found that “within the line at least one of the boundaries of each word-unit must occur before an odd syllable. Thus word-units with an even number of syllables must begin in an odd syllable. A disyllabic word-unit must cover either the first and second, or third and fourth, or fifth and sixth, or seventh and eighth, or ninth and tenth syllables,... but never the second and third, fourth and fifth, sixth and seventh, eighth and ninth syllables” (Jakobson, 1952:25). That the 'sense-units' within the line were closely aligned with the line's metrical structure further supports the theory that phrasal break placement in poetry tends to reflect its underlying pattern.

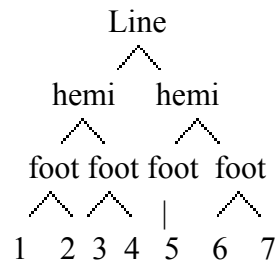
Jakobson also found in Serbo-Croatian verse another common pattern that has emerged across many poetic traditions (Kiparsky (1968), Hayes (1983)): a meter's constraints are observed less stringently at the beginning of the metrical units but increasingly towards the end of the line. Jakobson observed almost without exception a ‘bridge’ in the final two syllables of each hemistich requiring that the two syllables belong to the same ‘word-unit’. In other words, the absence of a foot break before hemistich-final syllables was almost categorically echoed

by the absence of a word break in the actual line. That this condition applied to hemistich-final feet with particular constancy supports the metrical tendency observed across languages of patterns being followed loosely at line beginnings and more strictly towards their ends.

Chen (1979) found the same phenomenon in traditional pentasyllabic Chinese poetry. He noted that for the line there was often a major pause after the fourth position of the line, and minor pauses were permissible after the second, fifth or sixth position. Chen generalized these tendencies to two hierarchecal archetypes, differing only in their hierarchical branching in the final two feet. Reflecting this, Chen termed these two patterns right-branching and left-branching and formalized them as follows:

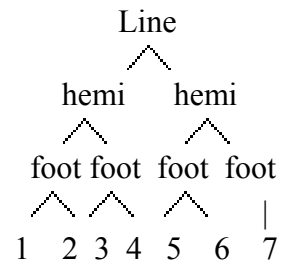
(13)

a.



Right-branching

b.

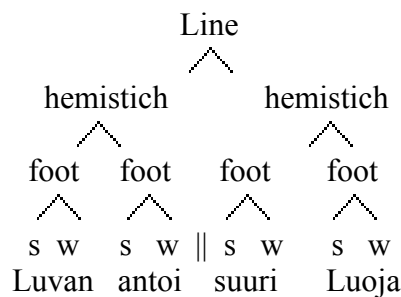


Left-branching

Chen noted that within these canonical schemes the first position of the line had the most freedom while the sixth and seventh positions of both the left and right-branching patterns were 'always rigid' (Chen: 397). In short, he found that in the beginnings of the metrical tradition more play was permissible in the line whereas there was little or no freedom at the end of the line.

Kiparsky (1968) also found this to be the case for the Finnish Kalevala. He noted that the underlying metrical pattern of the octosyllabic verse could be grouped into four feet with a marked tendency for a word boundary after the fourth position of the line which split the line into two hemistichs, formalized as follows (the example is taken from Kiparsky (1968)):

(4)



Kiparsky noted that the foot boundaries were echoed with increasing strictness by word boundaries in the realized verse, with the final foot categorically forbidding a word boundary, suggesting the presence of an inviolable bracketing constraint in the final foot. Kiparsky noted that while the syntax of the language and the trochaic structure of the verse did encourage this, that a monosyllabic word *never* was found in the final position (Kiparsky 1968) suggested that the phenomenon was of metrical significance as well. In French, requirements of stress likewise follow the endings-strict pattern: as will be seen below, stress appears obligatorily in hemistich-final and line-final position.

1.2 French Metrics

While there are many metrical patterns that were experimented with by French poets in the sixteenth century, the octosyllable, decasyllable and dodecasyllable (Alexandrine) were the patterns which found particular favor during the Renaissance.

1.2.1 The Octosyllable

The octosyllabic pattern is made up of eight positions which must be filled with a syllable, with an obligatory stress in the eighth position and the possibility of an extrametrical word-final schwa as a ninth syllable. Examples of this pattern are shown below. Notice that there is no fixed caesura within the line or fixed stress placement other than in the eighth position of the line:

(5)

1 2 3 4 5 6 7 8
 ,

Las, je n'eusse jamais pensé

1 2 3 4 5 6 7 8
 ,

Veux les ennuis de ma langueur,

1 2 3 4 5 6 7 8
 ,

Que tu m'eusses récompensé

1 2 3 4 5 6 7 8
 ,

D'une si cruelle rigueur

(Ronsard, "Chanson", CXLI, 1-4)

While within the line there was relatively free deployment of stress, the constraints of syllable count and line-final stress could not be meddled with. Thus, the constructs below would be unmetrical instantiations of octosyllabic verse (in the following constructs, 'ns' means 'no stress' and is marked only in the position under scrutiny):

(6)

- | | | |
|----|------------------------------|-------------|
| | 1 2 3 4 5 6 7 8 | |
| | | (ns) |
| a. | *D'une rigeur impossible | (construct) |
| | 1 2 3 4 5 6 7 8 9 10 | |
| b. | *D'une si cruelle méchanceté | (construct) |

In the first example, an unstressed syllable is occupying the eighth position of the line so the line would not be considered metrical because of the stress constraint, and the second example is in violation of the constraint on syllable count.

The octosyllable was commonly applied to song because its eight syllables worked harmoniously with the four beat sequences often used in music. While this pattern was used by many poets, in the sixteenth century it was not employed as commonly as the decasyllable and Alexandrine.

1.2.2 The Classic French Decasyllable

1.2.2.1 Syllable Count

The first fundamental rule of the Classic French decasyllable is that it is composed of ten positions with the option of a stressless syllable following the

(9)

1 2 3 4 (ø) 5 6 (ø) 7 8 9 10
 Qu'une galère, ou comme on voit en mer
˘ ˘ (Belleau, Pierres Précieuses, Gagate, 7)

(10)

1 2 3 4 (ø) 5 6 7 8 9 10
 Et plus d'étrange et forte passion
˘ (Labé, Sonets, XXIV, 13)

In the first example, the schwa at the end of 'une' does not elide because it is not followed by a vowel. Thus, it forms a syllable and occupies a metrical position. In contrast, the final schwa of 'galère' does undergo elision and so fails to occupy a position. Indeed, if 'galère' did not elide the line would be unmetrical not only for violating the syllable count but also the caesura. Similarly, in the second example, 'étrange' undergoes elision of schwa while 'forte' later in the line does not.

1.2.2.2 Stress Requirements

The Classic French decasyllable also had obligatory stresses in the fourth and tenth positions, as in the following examples:

(11)

1 2 3 **4** 5 6 7 8 9 **10** (11)
˘ ˘
 Ny le penser de trop penser en elle
Ronsard, Les Amours, CLXIX, 1)

(12)

1 2 3 **4** 5 6 7 8 9 **10**
 , ,

Si Apollo restreint ses rais dorés
 Scève, Le Délie, CXXIV, 1)

Stress in the fourth position, however, could on occasion be filled with syllables that simply had the potential for stress but might not be stressed in the delivery of the line. Consider the following examples:

(13)

1 2 3 **4** 5 6 7 8 9 10
 Amour avec sa torche accoustumé
 (Du Bellay, L'Olive, XXII, 2)

(14)

1 2 3 **4** 5 6 7 8 9 10
 Tresjoyeux d'estre arrivé seurement
 (Scève, Le Délie, XCIV, 8)

Verluyten (1985) found further that these weak stresses in hemistich final position were metrically sound for some poets only in certain genres. For example, Racine, a later Alexandrine poet, allowed them only in his comedies.

The following line from Ronsard and its subsequent ill-formed constructs show exactly what constituted a violation of stress placement in the line (here only relevant stresses are marked; again, (ns) indicates 'no stress' and is also only marked in relevant positions):

(15)

1 2 3 **4** 5 6 7 8 9 **10**
 , ,

- a. Mais ce cruel qui suce ma vigueur
 W W W S W W W W W S
 (Ronsard, Les Amours, XXXV, 6)

1 2 3 4 5 6 7 8 9 10
 ` (ns) `

- b. *Mais cet homme qui suce ma vigueur
 W W W S W W W W W S
 (construct)

1 2 3 4 5 6 7 8 9 10
 ` (ns) `

- c. *Mais ce cruel qui ma vigueur suce
 W W W S W W W W W S
 (construct)

The first metrically unacceptable line puts an unstressed syllable in the fourth position of the line; the second an unstressed syllable in the tenth position. Notice that the lines in both (b) and (c) do not violate any other established rules of the line. Thus inappropriate stress placement alone creates unmetrical lines. However, as shown in (\$) and (\$), the degree of stress is more negotiable in the fourth position of the line. In the fourth position, the syllable needs to have the potential for stress. If the syllable has the potential for stress it will be referred to here as a stress-site. Syllables that are not considered here as potential stress-sites are schwa as well as all non-final syllables (excepting the penultimate syllable of words ending in schwa). All other syllables may occupy these positions provided they violate no other constraints of the line. This stress constraint we formalize as follows:

(16)

A stress-site is obligatory in the fourth and tenth positions; a primary stress is preferred.

A fuller account of the syllables considered in this analysis to be eligible for stress will be addressed in 1.4.

1.2.2.3 The Caesura

The Classic French decasyllable also had a fixed caesura after the fourth position of the line. The first example below is taken from Ronsard, while the subsequently altered line is in violation of the caesural constraint:

(17)

1 2 3 4 || 5 6 7 8 9 10
a. Las, brusle moy d'un si chaste flambeau
1 2 3 4 || 5 6 7 8 9 10
(Ronsard, CLXVII, 10)

1 2 3 4 5 6 || 7 8 9 10
b. *Las, que tu brusles fort de ton flambeau
1 2 3 4 || 5 6 7 8 9 10
(construct)

Notice that (b) is fine in terms of stress; it is solely the violation of the caesural constraint that renders the line unmetrical.

Thus a stressed-stressless word could not occupy the fourth and fifth positions of the line because it would violate the caesura nor could it occupy the third and fourth positions of the line because it would violate the stress requirement.

A stressed-stressless word could occur in the fourth position provided the stressless syllable was elided to a vowel-initial word in the fifth position.

Some later poets did not view the constraints of stress and caesura as inviolable. The nineteenth century poet De Musset sometimes disregarded these constraints in his verse (examples from Grammont (1937)) :

(18)

1 2 3 4 5 6 7 8 9 10
C'est perdre en dé/sir le temps de bonheur
De Musset, "Médiocre"

(19)

1 2 3 4 5 6 7 8 9 10
J'ai dit à mon / coeur, a mon faible coeur
De Musset, "Médiocre"

Lines such as these will not be addressed in this analysis because they represent a concerted effort to depart from the original metrical scheme of these lines. Indeed, Verluyten (1985) argues that even for these poets the underlying pattern was still the same. I therefore formalize this final constraint of the Classic French decasyllable as follows:

(20)

A word cannot occupy both hemistichs of the line.

1.2.2.4 Proposed Bans on Hemistich-Penultimate Stress

It has been argued further by some that there is in addition a marked dispreference for a stressed syllable in the positions preceding the required stresses in both hemistichs. Thus, the following lines are viewed traditionally to be avoided in poetry because of the secondary stresses placed in the third and/or ninth position:

(21)

1 2 3 4 5 6 7 8 **9** **10** (11)

 ` ` ` `

De mal pour bien a tes serviteurs rendre

(Scève, Le Délie, LXIII, 8)

(22)

1 2 **3** **4** 5 6 7 8 9 10 (11)

 ` ` ` ` `

Perçant Corps, Coeur, et Raison despourveue

(Scève, Le Délie, I, 5)

(1)

1 2 **3** **4** 5 6 7 8 **9** **10**

 ` ` ` ` ` `

En devint folle, et d'un si poignant trait

(Ronsard, Les Amours, II, 11)

(23)

1 2 3 4 5 6 7 8 **9** **10** (11)

 ` ` ` ` ` `

Prendra aussi immortalité d'elle

(Du Bellay, L'Olive, XXII, 13)

I will discuss later whether this perception of high metrical complexity in these lines is an accurate one.

Secondary stresses, while not being placed frequently in the third and ninth positions of the line, do usually exist and are placed variably in the line, particularly in the second hemistich. Note the variations of stress placement in the second hemistichs of the following lines:

(24)

\ / \ \
 Sans y penser je me trouve hors de peine
 (Labé, Sonets, VIII, 11)

(25)

 \ \ \ \
 Qui m'ont si fort, bruslé, serré, lié
 (Ronsard, Les Amours, XVII, 3)

(26)

 \ \ \
 Sinon que foi en sa purité nue
 (Scève, Le Délie, XXXIV, 3)

The question remains to be determined whether such stresses are distributed purely at random or if they have a statistically predominant pattern.

1.2.3 The Classic French Alexandrine

The Classic French Alexandrine was essentially identical to the Classic French decasyllable but for the addition of two syllables in the first hemistich. Thus the line was obligatorily composed of twelve syllables with the possibility of an extrametrical schwa as a thirteenth syllable. The rules for stress and caesura were the same. In the following examples, (a) is the valid instantiation and (b) is the ill-formed construct:

(27)

- a. 1 2 3 4 5 6 7 8 9 10 11 12
Amour jusqu'à midy paresseux sommeilla
(Ronsard, "Les Amours d'Eurymedon et de Callirée", Stances II, 7)
- b. 1 2 3 4 5 6 7 8 9 10 11 12 13
*l'amoureux jusqu'à midy paresseux sommeilla
(construct)

(28)

- a. 1 2 3 4 5 6 7 8 9 10 11 12 (13)
Si l'on ne m'a trompée, il n'en veut qu'à sa race
(Corneille, Oedipe, 962)
- b. 1 2 3 4 5 6 7 8 9 10 11 12 13 (14)
*Si l'on ne m'a trompée, il n'en veut pas à sa race
(construct)

Second, the Alexandrine also had obligatory stress in the sixth and twelfth positions of the line. Again, the examples in (\$29a) and (\$30a) obey this constraint while those in (\$29b) and (\$30b) do not.

(29)

- a. 1 2 3 4 5 **6** 7 8 9 10 11 **12**
je n'ecris plus les feux d'un amour inconnu
(D'Aubigné, Les Tragiques, 1)
- b. 1 2 3 4 5 **6** 7 8 9 10 11 **12**
*je n'ecris plus l'âme d'un amour de vivre
(construct)

(30)

- a. 1 2 3 4 5 **6** 7 8 9 10 11 **12**
 Et qui n'adore pas de vaines simagrées
 (Molière, Tartuffe, I, vi, 63)
- b. 1 2 3 4 5 **6** 7 8 9 10 11 **12**
 *Et qui donc adore de vaines images
 (construct)

The Alexandrine, furthermore, had an obligatory break between the sixth and seventh positions.

(31)

- a. 1 2 3 4 5 **6** 7 8 9 10 11 12 (13)
 ||
 l'autre, navré d'amour, a chanté ses complaints
 (Belleau, Les Pierres Precieuses, "l'Améthyste, 61)
- b. 1 2 3 4 5 **6** 7 8 9 10 11 12 (13)
 ||
 *l'autre, navré de passion chantait ses plaintes
 (construct)

(32)

- 1 2 3 4 5 **6** 7 8 9 10 11 12
 ||
 a. Mon âme en gardera l'éternel souvenir
 (Corneille, L'Illusion Comique, 1688)
- 1 2 3 4 5 **6** 7 8 9 10 11 12

- b. *Mon âme, qu'elle en garde ^{||} le beau souvenir
(construct)

As with the decasyllable, the rules governing elision could save the caesura, as in the following example:

- (33)
- | | | | | | | | | | | | | |
|--|---|---|---|---|-------|---|---|---|----|----|----|------|
| 1 | 2 | 3 | 4 | 5 | 6 (ø) | 7 | 8 | 9 | 10 | 11 | 12 | (13) |
| Nostre Melancholique en sçauroit bien que dire | | | | | | | | | | | | |
| (Régnier, <u>Les Satyres</u> , VII, 5) | | | | | | | | | | | | |

As with the decasyllable, the caesural constraint was not held sacrosanct by later poets, as the following examples from Verlaine show:

- (34)
- | | | | | | | | | | | | |
|---|---|---|---|---|-------|---|---|----|----|----|------|
| 1 | 2 | 3 | 4 | 5 | 6 / 7 | 8 | 9 | 10 | 11 | 12 | (13) |
| Tels les mourants savourent / l'huile du Saint-Chrème | | | | | | | | | | | |
| Verlaine, “Dédicaces” | | | | | | | | | | | |

- (35)
- | | | | | | | | | | | |
|--|---|---|---|---|-------|---|---|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 / 7 | 8 | 9 | 10 | 11 | 12 |
| Mais de tous ces memoranda / le meilleur c'est | | | | | | | | | | |
| Verlaine, “Dans les limbes” | | | | | | | | | | |

As with the decasyllable, these lines will be viewed as deviant in the context of the Classic Alexandrine.

Finally, stress is felt by some analysts (Grammont (1937); Lusson et Roubaud (1974)) to be disfavored in hemistich penultimate position (i.e., the fifth and eleventh positions).

Notice again from the perspective of the examples below that counting from the first stressed position at the right of the line backwards, the final ten positions of the Classic French decasyllable and the Classic French Alexandrine are identical:

- (36)
- a. Decasyllable WWWS || WWWWWS
 - b. Alexandrine WWWWWS || WWWWWS

In my analysis of the final ten positions of these lines, we will therefore treat them as such.

1.2.4 **Generative French Metrics**

Recent work in French Metrics has moved towards understanding the line as a varyingly refracted representation of an abstract pattern and has begun to embrace the notion of a difference between realized verse and its underlying pattern. Verluyten (1989) argued for a distinction between the underlying *structure métrique* (SM) and the surface *structure prosodique* (SP) following the work of Halle and Keyser (1971).

Verluyten found that one of the principal correspondence rules for the French Alexandrine was an exact inverse to that found by Kiparsky (1977) for Shakespeare. Kiparsky found that in the correspondence between linguistic representation and the underlying iambic pattern, a stressed syllable (S) could not freely occupy a metrically weak position (W), formalized by Verluyten as follows:

(37)

*	...	S...
	W	

The opposite, however, does not apply: unstressed syllables in Shakespeare can and often are placed in metrically strong positions of the line as the following examples show:

(38)

´	(ns)	´	´	´	´	´	´	´	´	Structure Prosodique (SP)
Oh	for	a	Muse	of	fire,	that	would	ascend		
W	S	W	S	W	S	W	S	W	S	Structure Metrique (SM)

(King Henry V, I, i, 1)

(39)

´	(ns)	´	´	´	´	´	´	´	´	SP
and	left	me	to	a	bootless	inquisition				
W	S	W	S	W	S	W	S	W	S	SM

(Tempest, I, ii, 35)

(40)

() ` *ns* ` ` SP
But I am weaker *than* a woman's tear
W S W S W S W S W S SM
(Troilus and Cressida, I, i, 9)

(41)

ns ` ` *ns* ` SP
That we shall die, we know; tis *but* the time
W S W S W S W S W S SM
(Julius Caesar, III, i, 99)

(42)

 ` (*ns*) ` (*ns*) SP
Oft does them by the weakest minister
W S W S W S W S W SSM
(All's Well That Ends Well, II, i, 139)

Following the traditional rules of the Classic French Alexandrine, the opposite applies in this meter: A stressed syllable can freely be placed in a weak position but an unstressed syllable cannot be placed in one of the two strong positions in the line:

(43)

SP *...W...
 |
SM S

1.3 French Prosodic Phonology

Stress placement in French poetry has always been controversial, due in part to its variability. Bowers (1982) discussed the shifting of a word's stress according to its phrasal placement in his analysis of the French Alexandrine, as in the following examples:

(44)

a. Cela se *voit* ,

b. Cela ne se voit *pas* ,

(45)

a. Vous me télé*phonez*? ,

b. Télé*phonez-moi*! ,

(46)

a. Rachetez-*vous*! ,

b. Rachetez-*vous donc*! ,

As can be imagined, this phenomenon of shifting stress renders the task of assessing stress in French meter all the more difficult.

In addition, French phrases having what appear to be adjacent stresses have been argued (Verluyten (1989)) to shift their initial adjacent stress back to a

normally stressless syllable, a phenomenon that has also been noted in English in certain environments:

(47)

- a. 'thirteen'
- b. 'thirteen men'

Verluyten, taking the verse of Verlaine as his object of analysis, suggests that the poet makes use of this sort of stress shifting in French, citing examples such as the following:

(48)

Être saouîl, vous ne sa/vez pas quelle victoire

(49)

Avec rares, des bou/quets d'arbres et de l'eau

Verluyten argues that the syllables falling in sixth position are stressed syllables due to the same phenomenon of stress shifting noted above. In examples (48) and (49) above this shifting is as follows:

(50)

- WS S S W S
a. savez pas -> savez pas
- W S S S W S
b. bouquet d'arbres -> bouquet d'arbres

These analyses are controversial, however, for as Verluyten admits, there are plenty of cases where no stress shift would be expected, since the following syllable is stressless. The following examples are some of those given:

(51) 1 2 3 4 5 6 7 8 9 10 11 12
Non sans prudence en rai/son de l'expérience
(Verlaine, "Bonheur")

(52) 1 2 3 4 5 6 7 8 9 10 11 12
Comme des mois de Ma/rie et du Sacré-Coeur

In earlier work (1982; 1985) Verluyten made a significant departure from traditional analyses of French prosody by arguing that French stress was underlyingly an alternating pattern of weaks (W) and strongs (S). For this to be possible, polysyllabic words would have to have more than one stress, a notion with which Verluyten concurred saying that stress occurred alternatingly from right to left on a word, beginning with (W) on schwa-final words and (S) on non-schwa-final words. Here are his examples along with his stress placements:

(53) S W S
a. souvenir

- b. S W
boite

- c. W S
boiteux

- d. W S W
boiteuse

The analysis is intriguing but demands a strong allowance for division between the underlying pattern and its surface representation.

To further complicate the issue of stress placement in French, in cases of extreme emphasis stress on a word shifts backwards. This means that in identical phrases, stress can occur in more than one manner, as the following examples show:

(54)

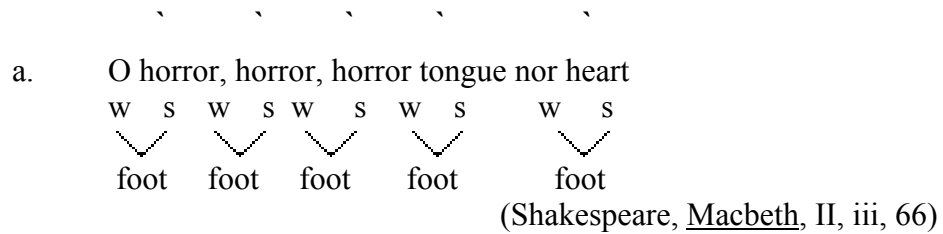
- | | | |
|----|----------------|--------------------|
| | ` | |
| a. | <i>Laurent</i> | (normal emphasis) |
| | ` | |
| b. | <i>Laurent</i> | (extreme emphasis) |

(55)

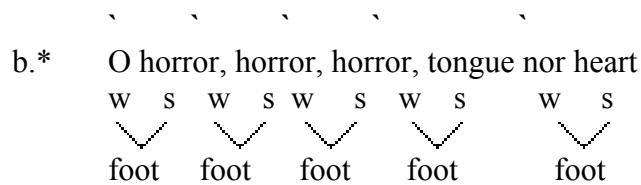
- | | | |
|----|-------------------|--------------------|
| | ` | |
| a. | <i>Dites-le!</i> | (normal emphasis) |
| | ` | |
| b. | <i>Dites-le!!</i> | (extreme emphasis) |

This is of course contrary to English where, except for in certain isolated cases, stress of a lexical item is fixed. For example, the following line from Shakespeare would most likely be analyzed as denoted below:

(56)



And it would be remiss to interpret the line as follows:



Yet since in French more than one analysis of the line is often not only possible but reasonable what can be done to avoid such controversy?

1.4 Proposed System of Rules

What is needed is a set of rules that will maximally distill the echoings of an underlying pattern in the line and winnow out any necessity to interpret subjectively. The system of rules used here will not embrace stress patterns such as (\$) and (\$) noted above. For this work, I have assumed the basic rules of French to be that stress is placed word-finally on all polysyllables except in cases

where schwa is the final syllable. In such cases, stress falls on the penultimate syllable. Stress is also placed on monosyllabic content words. In addition, there are certain phrasal constructs which preempt the above rules. For example, with postposed clitics such as imperatives, stress always falls on the final clitic of the phrase as opposed to the final syllable of the verb, as in the following examples:

(57)

- a. *Donnez!*
- b. *Donnez-le!*
- c. *Donnez-le-lui!*

(58)

- a. *Mettez!*
- b. *Mettez-les!*
- c. *Mettez-les-y*

In addition, certain polysyllabic function words are assumed in the analysis here to have no stress: 'elle' receives no stress when functioning as a proclitic, 'vostre' and 'nostre' are assumed to receive no stress when functioning as possessive adjectives and 'une' receives no stress when serving as an article. In defense of their assessed stresslessness, it should be noted that in the 4000 lines

analyzed of the Classic French decasyllable, the aforementioned words were never placed in 4th or 10th position. That is, there were no lines such as the following during the Renaissance (remember that words ending in '-ion' occupied two positions during this period):

(59)

- a. 1 2 3 4 (ø) 5 6 7 8 9 10 (11)
 *Et je vois qu'elle aime bien ses élèves
- b. 1 2 3 4 (ø) 5 6 7 8 9 10
 *Il tire notre attention ailleurs
- c. 1 2 3 4 ø 5 6 7 8 9 10
 *Puis soudain une ardente passion...

The following line shows how the system of stress assessment proposed above operates:

(60)

Puisse avenir, qu'une fois je me venge
 1 0 0 1 0 0 1 0 0 1 0
 (Ronsard, Les Amours, XXXV, 1)

In the line, 'puisse' receives stress as a content word, as does 'avenir' on its final syllable. 'Une' receives no stress because it is a clitic; 'fois' receives stress as a content word, 'je' and 'me' receive no stress as clitics and 'venge' receives stress on its initial syllable since its final syllable is schwa.

This process agrees on the whole when compared with the assessments of other metrists. For example, Morier (1974) in his analysis of the French

decasyllable assesses stress in several decasyllabic lines from the nineteenth century poet Valéry's "Cimetière marin". His analysis proves largely consistent with the one derived by the system of rules proposed here. In the following example, the '1's below the line represent how stress placement is assessed by the system of rules; the accents above represent Morier's analysis:

(61)

Stable tresor, // temple simple a Minerve,
 1 1 1 1 1

Masse de calme, et visible réserve
 1 1 1 1

Eau sourcilleuse, // Oeil qui gardes en toi
 1 1 1 1 1

Tant de sommeil// sous un voile de flamme,
 1 1 1 1

O mon silence!// Edifice dans l'âme
 1 1 1 1

Mais comble d'or aux mille tuiles, Toit!

1 1 1 1 1

(“Le Cimetière marin”, str. 3)

In Morier's example, the assessment derived by the proposed system of rules here is in agreement with his analysis.

The only area where this stress analysis falls potentially into controversy is in a line with adjacent stresses such as follows:

(62)

, , , ,

Et être au haut de mon désiré heur

(Labé, Sonets, VIII, 13)

(63)

, , , ,

qui d'Amour fut par sa voulenté père

(Scève, Le Délie, CCCCXLI, 7)

Yet analyzing such lines with adjacent stresses has been viewed by many as central to a more complete understanding of the line.

Bowers (1982) argued that although ‘disaccentuation’ rules such as those mentioned in 1.2 of this paper did phonetically remove stress from the first stressed syllable, the notion of stress on that syllable carried psychological weight for the reader. Thus, while traditional analyses would most likely put only two stresses in lines such as the following Alexandrine from La Fontaine, Bowers argued that the line's stress is best represented before phrasal disaccentuation takes place (divisions and markings are Bowers’):

(64)

- a. Que vous êtes joli, / que vous me semblez beau
- b. Que vous êtes joli, / que vous me semblez beau

As Bowers states, “the fact that people reading Classical verse tend to add stresses to lines like these at exactly the points predicted by assuming that the underlying word accents... are metrically significant is a striking confirmation of this theory.”

(Bowers (1982): 8)

Earlier traditional analyses also argued for adjacent stresses. Quicherat (1850) also argued that when there are adjacent stresses, although they ‘nuit à l’harmonie’, both syllables should still be understood as stressed. He cites the following examples of Classic Alexandrines with adjacent stresses (italics are Quicherat’s):

(66)

Ainsi que la naissance, ils ont les *esprits bas*
(Corneille)

(67)

Que me sert, en effet, d’un *admirateur fade*?
(Boileau)

(68)

Il vous doit, a-t-il dit, plus qu’à *Porsenna même*
(Voltaire)

To further ascertain whether this proposed system of rules reliably predicted stress placement, I also analyzed a five line sample of poetry on a spectrogram. The reader was an educated native French speaker of Parisian dialect. The results show that rising pitches, considered a fairly accurate indicator of stress, consistently match with those areas marked for stress by the system. Note in the following examples that the mark circling rising pitch corresponds with strong regularity to the system of stress placement in the line. In the spectrograms that follow, the broken line patterns on top are from a narrow band spectrogram and show the pitch levels of the utterance; the patterns beneath are from a wide band spectrogram and indicate the segments from which the line can be read. Of interest is how the pitch peaks align with certain syllables.

To interpret the pitch tracks more clearly it should be noted that there are some pitch peaks which result from obstruents. Voiceless obstruents, such as /p/ as in 'pony', /t/ as in 'top', /k/ as in 'car' , /s/ as in 'sit', 'sh' as in 'shell' and /f/ as in 'felt' cause an interruption in the pitch reading as well as perturbations before and after the line, roughly as follows:

(69)



Voiced obstruents such as /b/ as in 'boy', /d/,as in 'dog' /g/ as in 'god', 'zh' as in 'vision' and /v/ as in 'vat' also cause perturbations in the reading, but do not interrupt the pitch reading. Their pattern can generally be recognized as follows:

(70)



To aid those unfamiliar with this process, I will document their appearance in each line:

(71)



toi seule as fait que ce vil si-----è---cle a-----va---re
1 1 1 1 1

Consonant Induced Perturbations:

Voiceless: seule, fait, que, ce, siecle



Voiced: avare



(72)



et a-veu---glé de tout sain ju-----ge-----ment
 1 1 1 1

Consonant Induced Perturbations:

Voiceless: tout, sain

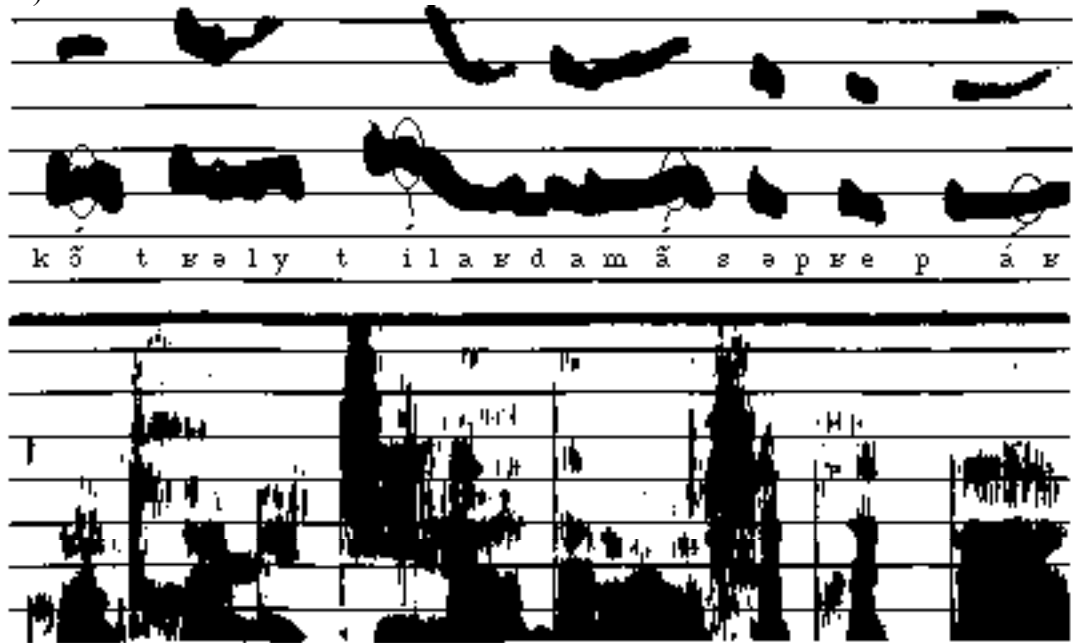


Voiced:



aeuglé, ju

(73)



con-----tre l'u----t----ile ar---dam---ment se pré-----pare
1 1 1 1

Consonant Induced Perturbations:

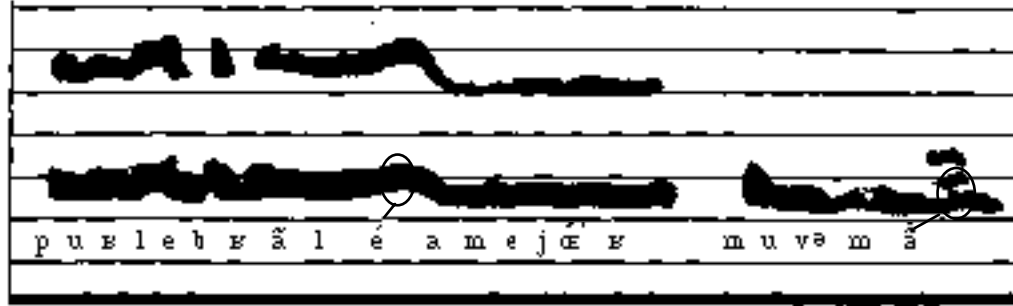
Voiceless: contre, l'utile, se, prépare



Voiced: ardamment



(74)



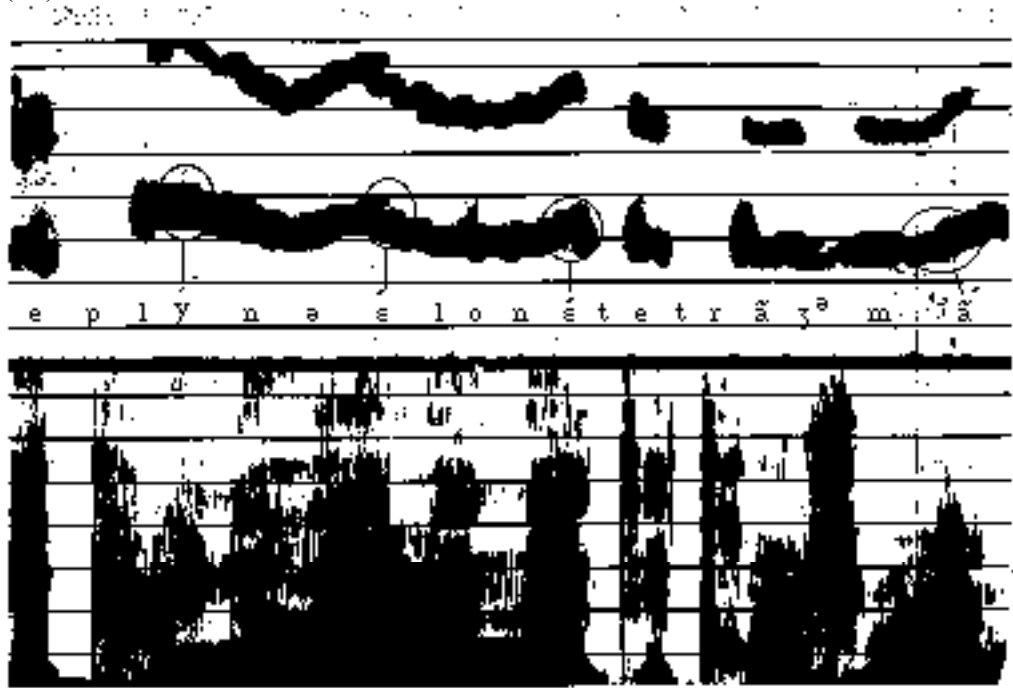
pour l'é---bran-----ler à meil-----leur mouve---ment
 1 1 1

Consonant Induced Perturbations:

Voiceless: pour, meilleur (X)
 (())

Voiced: ébranler, mouvement
 (())

(75)



Et plus ne hait l'hon----nête é-----trange-----ment
1 1 1 1

Consonant Induced Perturbations:

Voiceless: plus, l'honnête, étrangement



Voiced: étrangement



The stresses placed by the proposed system of rules prove on the whole consistent with the rising pitches of the speaker. Taking the first line noted above for example, there is a rise in pitch on 'seule', on 'fait', on the final position-occupying syllable of 'siècle' and on the penultimate syllable of 'avare' -- exactly where the system places stress as well. In conclusion, while this system of analysis may have its occasional inaccuracies, overall it proves a good indicator of stress in the line.

1.5 Methods of Metrical Analysis

Studies of a language's metrical tradition can be achieved in two ways: (1) exceptionless or near-exceptionless patterns can be found and then formulated as rules; or (2) tendencies can be discovered through the marked recurrence of a given pattern noted through statistical compilation. It is likely that all results for the Classic French decasyllable found by method (1) have already been brought to light. The approach I intend to take here is the second, sometimes termed the "Russian method", which consists of analyzing a large number of lines, taking their phonological and syntactic profiles individually and then analyzing them 'vertically', i.e., through compiled statistics whose significance can be seen through graphs or statistical analysis. From these analyses patterns often emerge which help to better understand the nature of the metrical tradition. I will briefly discuss some results from this tradition and argue for its validity.

Statistical studies have been used to help determine the chronology of works and/or their authenticity. For example, Tarlinskaja (1987), from her

statistical compilation of the stress profiles of the works of Shakespeare, found that from a diachronic perspective of the line, the poet's metrical tendencies moved "from a more constrained to a looser form which coincided with the evolution of the epoch" p.350. With this knowledge, it is then possible to more accurately predict the date a particular work was composed.

Some, however, may view the statistical method as having little evidentiary weight towards distilling the underlying nature of a given verse; meters often undergo synchronic or diachronic decay in their passage from abstract to actualized verse because of extensive use by a wide range of poets over a long period of time. It may be argued that a meter's underlying nature is not ultimately represented statistically in its actualized linguistic form.

Against this view, however, it can be noted that statistical approaches have often led to the same conclusions as categorical approaches. Here are some examples.

Ants Oras' (1960) graphs on the caesural placement of Elizabethan and Jacobean iambic pentameter poets found an interesting change in caesural placement develop through the careers of many poets. Oras noted specifically that many poets began their careers with a general caesural placement following the fourth position, but that as they continued to compose and became more experienced with the medium, the caesural placement moved towards the location immediately following the sixth position. That is to say:

(76)

a. **Average pause pattern early in career of iambic poet:**

w s w s || w s w s w s

b. **Average pause pattern late in career of iambic poet**

w s w s w s || w s w s

This statistical finding, which suggests unmarked status for the 4/6 variant, supports the categorical claim already noted in the classic French decasyllable that calls for two hemistichs, the first *obligatorily* being composed of four positions and the second by six.

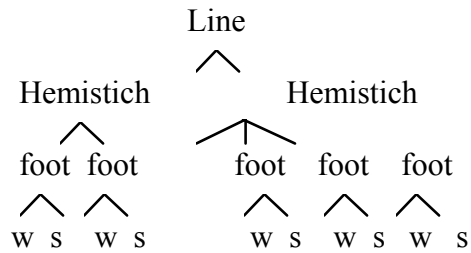
In Gasparov's study of the Italian hendecasyllable, he found statistically as well that stresses in the line moved from predominance in the fourth position under Dante's (1265-1321) hand towards the sixth position under Petrarch (1304-1374) and even more so under the eighteenth century poets Parini (1729-1799) and Metastasio (1698-1782).

These statistical observations parallel Piera's (1980) claim, in his study of the Spanish hendecasyllable, in which he found two particularly recurrent versions which he termed Arte Minor, a 4/6 realization of the hendecasyllable and Arte Maior, a 6/4 realization. Both of these versions are formalized as follows:

(77)

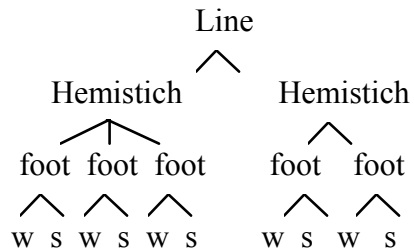
a.

Arte Minor



b.

Arte Maior



Piera observed that while the Arte Maior version could be found mixed together with the Arte Minor realization, it was never instantiated independently of Arte Minor. Piera concluded that the Arte Minor version was therefore less marked than Arte Maior. It should be noted here as well that Morier (1981) holds the same to be true for the French Decasyllable; a 6/4 variant did exist in the 14th, 15th, 18th and 19th centuries, but was always accompanied by the 4/6 variant. He cites the following two line example:

(78)

Pour une bonne fois // séparons-nous,
6 4

Très chers messieurs // et si belles mesdames.
4 6

Verlaine, Parallèlement, “La Dernière Fête galante”

Here is another example: Tarlinskaja found in her compiled stress profiles of Shakespeare’s sonnets a stress fell on the tenth position approximately 95% of the time. This statistical observation in Elizabethan poetry corresponds to what has been found in categorical analyses, again in the French decasyllable among others, where the tenth position must obligatorily receive stress if the line is to be considered metrical.

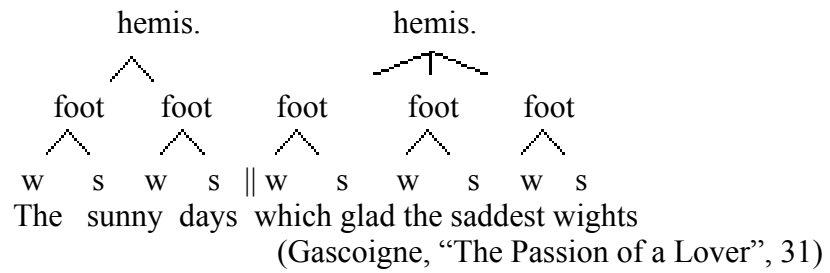
1.6 Fragestellung

The question is whether a more developed underlying pattern for the Classic French Decasyllable can be uncovered than the somewhat diaphanous traditional pattern. This question is even more provocative knowing that there are metrical patterns across many languages which are identical to French in syllable quantity and can be broken down into feet.

For example, in English meter of the same period, Gascoigne also had a required break after the fourth position. His pentameter can be formalized into binary feet as follows:

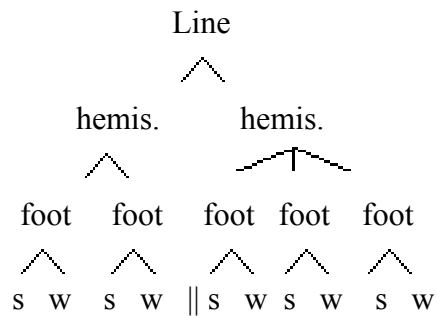
(79)

Line
^



Jakobson, in his study of Serbo-Croatian also found a series of five binary feet (albeit trochaic) also with an obligatory break after the fourth position, repeated from (5\$) below :

(80)



Furthermore, since the predominant patterns of French Renaissance poetry are lines with syllables of eight, ten and twelve positions, this suggests further that binary feet underlie the traditions. The goal in this analysis therefore is to make use of the Russian method in the hopes of obtaining a deeper insight into French metrics.

Chapter 2: Method

2.1 Data Corpus

In the hopes of finding some statistical patterns that might bear light on the Classic French Decasyllable, I took the stress and break profiles from the following poets and works:

Author	Work	Number of Lines
Du Bellay	Des Feux de joye (1549)	14
	Elle mesme après la mort (1549)	14
	La Nymphé dormante (1549)	14
	Du Jour du Noël (1549)	24
	La Monomachie (1549)	233
	L'Olive (1549-50)	first 500
	Les Amours (1549)	first 194
Ronsard	Les Amours (1552-3)	first 1000
Scève	Le Délie (1543-4)	first 1000
Tyard	Les Erreurs Amoureuses (1549)	first 1000
Racine	Iphigénie (1674)	1765 (entire work)

Table 1: Works of poetry used for break and stress profile analysis

It will be of some help to know a little of the background of each of these poets.

2.1.1 Sceve (1501-1560)

Little is definitively known about the life of Maurice Scève; by most accounts he was born in 1501, presumably in Lyon, and was educated by his father or a private tutor (Saulnier (1981)). It is also presumed by many that, around 1520, he experienced the tragic love affair that inspired his Délie, although the work was not published until 1544.

The Délie itself is tightly structured; rather than use the sonnet form of fourteen lines, Scève used the *dizain*, which uses ten. Since Scève was writing in decasyllables, this created perfect symmetry vertically and horizontally. Along the book itself, after five introductory poems, there are fifty emblems, each emblem followed by nine poems. Counting the emblems then, there are fifty ten-unit sets through the Délie, further underscoring the tight structure. It will be of interest to see if this structuring proves to have unconsciously affected Scève's rendering of the line.

2.1.2 Du Bellay (1522-1560)

The Renaissance was a period of a significant change in status for the French language; until the sixteenth century attempts at affirming the legitimacy of French as a linguistic rival to Latin were essentially unsuccessful. Du Bellay, one of French language's most ardent defenders and a member of the Pléiade, situated himself squarely at the center of this debate (Chamard (1900)). Influenced both positively and negatively by Thomas Sebillet's L'Art poétique

(1548), Du Bellay's Deffence et illustration de la langue francoyse appeared in 1549, extolling the expressiveness of the French language and exhorting French poets to pursue composing in French rather than in Latin. Du Bellay felt French poetry was best rendered through imitation of Latin and Greek poets such as Pindar and Horace. His objective was to adapt the style of the classics into an equally expressive French form, as Dante and Petrarch had in giving Italian expression to Latin traditions.

In pursuit of this ideal, that same year he published L'Olive, credited by most as the first successful translation of the Petrarchan sonnet form. Working at a pace that was to send him to an early grave, that same year he also published his Recueil de Poësie, a series of poems dedicated to his protectress Madame Marguerite, the sister of the French king Henry II. The large majority of his subsequent work was in Alexandrines and so will not be addressed here.

2.1.3 Tyard (1521-1605)

It is noted in Scévole de Saint-Marthe's work Eloges des hommes illustres that Tyard's early work was devoted to mathematics and philosophy (Jeandet (1860): p. 81). Leading a religious life, he was named early on as the Bishop of Chalon, but amid the religious turmoil of the sixteenth century resigned this post. Later, he moved to poetry, publishing Les Erreurs amoureuses in 1548, argued by some to have preceded Du Bellay's L'Olive by a few months (Jeandet (1860)). This debated piece of chronology is important because Tyard's anteriority would place him ahead of Du Bellay as the first to give French poetic life to the

Petrarchan sonnet form. Tyard would also spend much of his life involved in astronomy. A member of the Pléiade as Du Bellay and Ronsard, he was also strongly influenced by Maurice Scève to whom he paid homage in the early sonnets of the first and second books of Les Erreurs Amoureuses.

It will be of interest to see if there are recognizable influences of Scève in Tyard's work, as well as to see if his involvement in mathematics may have influenced the structure of his poetry in any way.

2.1.4 Ronsard (1524-1585)

As a member of the Pléiade, Ronsard was in close contact with Du Bellay. The most celebrated poet of the French Renaissance, Ronsard found himself initially somewhat at odds with Marot's school for his use of what were deemed overly abstruse allusions in his Quatre premiers livres des Odes (Cohen (1946)). After a brief period of verbal parrying and political positioning, Ronsard, following the Petrarchan style as his colleague Du Bellay, published Les Amours in 1552, which, simpler in style, served as something of a peace-offering to Marot's faction. As Du Bellay, Ronsard would subsequently move from the decasyllable to the Alexandrine as his preferred form.

Ronsard was, more than his contemporaries, avid in the belief that poetry should be accompanied by music. It will be of interest to see if this belief produced a distinction in his metrics.

2.1.5 Racine (1639-1699)

Racine grew up under the fundamentalism of the Jansenists. Orphaned at the age of four, he spent many of his formative years under the protection of his maternal uncle, Father Sconin, in a small town in Languedoc. After much waiting, he abandoned hope of receiving a post as Canon of the town and went to Paris.

His plays were written in Alexandrines and followed closely on the heels of Corneille's work of the earlier part of the seventeenth century. Part of his work, namely Iphigénie, will be used as a representative sampling of the century's Alexandrine. Furthermore, as a poet of the latter part of the century, it will be of interest to see if his hemistichs exhibit a metrical evolution, an evolution such as has been noted in other language's metrical traditions. It should be noted, however, that any results obtained from this analysis, an analysis which focuses on one play from one author, should be considered suggestive but nonetheless purely preliminary.

2.2 Stress

Each line was scanned and coded for stress and for phonological cohesion. Codings were done in a computer file to permit automated searching and counting. Stress was not differentiated further than stress vs. no-stress. For the phonological cohesion of the line, four different levels of cohesion were transcribed which are explained below.

2.3 Break Profiles

Cohesion is essentially the degree of attachment between two syllables. If the two syllables belong to one word as in the word 'cohesion' there is tight cohesion between the syllables 'co-' and '-he-' and '-sion'; on the other hand, if they belong to separate utterances, as in 'write' and 'I' in the phrase, 'I write. She sleeps', there is less cohesion between the syllables 'I' and 'write'. Furthermore, there is no cohesion between 'write' and 'She'. Altogether, there are four levels of cohesion that will be distinguished in this analysis.

The process of distinguishing break levels used in this analysis comes largely from Selkirk (1980). Nespor & Vogel (1982), following Selkirk (1978, 1980a) supported and further elaborated the prosodic structure model, finding that the prosodic structure was not solely dependent on syntax but that there were distinct prosodic categories which needed to be used to predict a language's prosody. Following Selkirk, they distinguished between five categories: the syllable, foot, prosodic word, phonological phrase and utterance. Hayes (1989) supported the notion of a prosodic hierarchy through meter and suggested that "...metrical rules NEVER refer to syntactic bracketing, only to prosodic bracketing" (p.224).

The domains of the prosodic hierarchy and of liaison contexts proposed by Selkirk and others will serve here as a diagnostic for determining the level of phonological cohesion in the line. The idea is essentially that liaison takes place more often in domains of tight phonological cohesion. Selkirk's analysis is summarized below.

The tightest phonological cohesion in French other than between syllables of the same word can be found between determiners and what they directly precede, or between enclitics and their verbs as in the examples in (3\$):

(1)

- a. les ampoules
- b. cet enfer
- c. un éléphant
- d. Ils ont compris
- e. Prenez-en

In these examples, liaison is obligatory for all native French speakers. Notice that for clitics, liaison is obligatory before the constituent, as in (\$d), as well as after, as in (\$e).

Not all liaison contexts however are as straightforward as those above. In more particular dialects, for example, liaison contexts occur in the following patterns between polysyllabic adverbs and their adjectives (examples from Selkirk):

(2)

- a. Je trouve leur histoire extrêmement amusante

- b. Les dirigeants se sont montrés profondément aveugles
- c. Ce livre est tout à fait inutile

Note that a similarly patterned phrase such as 'très amusant' does undergo liaison virtually universally. It is only with the longer adverbs such as those shown above that the liaison is more variably applied.

In some dialects attention to liaison is done to such a degree as to permit liaison between relatively independent constituents (examples again from Selkirk):

(3)

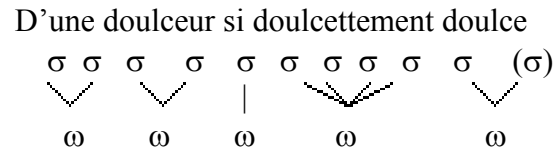
- a. des enfants en bas âge
- b. prêt à partir

Thus, Selkirk finds three different degrees of liaison application relating to the degree of phonological break. The general pattern is that the more significant the break, the less likely those two syllables will undergo liaison

The phonological divisions used here fall roughly along the same lines. For this analysis, the liaison context mentioned in (§) will be collapsed together with full breaks. In addition, I have encoded an additional level of break for syllables belonging to the same word, a break level irrelevant to liaison contexts but of interest here. This is the weakest level of break, syllables belonging to the

same word, as in the following (in the example, “σ” denotes “syllable”; “ω” denotes “word”):

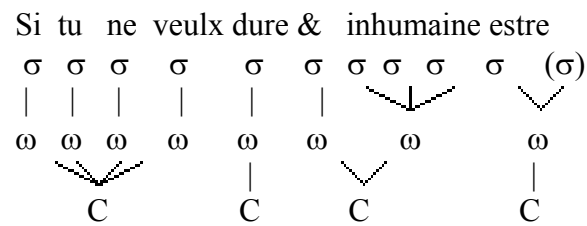
(4)



(Ronsard, Les Amours, XXXVIII, 4)

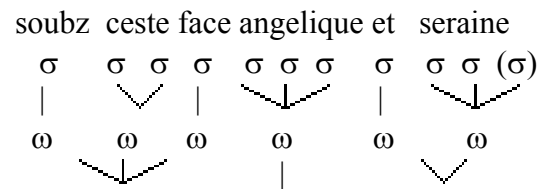
The next tightest level of cohesion is that between a clitic and its host. To depict this, I use a constituent consisting of a host with its clitics prosodically adjoined to it. Hayes (1989) terms such a sequence the 'Clitic Group'; its relevance for French phonology was shown by Selkirk (1972):

(5)



(Du Bellay, L'Olive, XXXVI, 10)

(6)



C C C
 (Du Bellay, L'Olive, XXXVI, 11)

(7)

Pour la douleur, q'amour veult que je sente
 σ σ σ σ σ σ σ σ σ σ (σ)
 | | | | | | | | | |
 ω ω ω ω ω ω ω ω
 \ / \ / \ / \ / \ / \
 C C C C
 (Ronsard, Les Amours, XXXVI, 1)

(8)

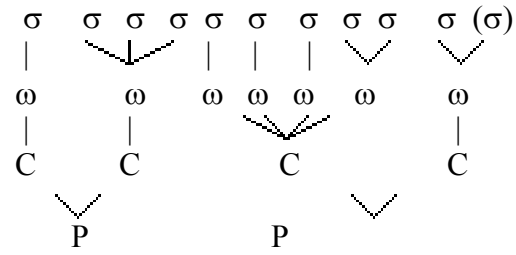
Pourray-je bien souffrir tant de trespas
 σ σ σ σ σ σ σ σ σ σ
 \ / | | \ / | | \ /
 ω ω ω ω ω ω ω
 \ / | | \ /
 C C C C C
 (Magny, Les Odes Amoureuses, X, 31)

As noted earlier, for most native speakers liaison is obligatory in the context of a Clitic Group.

The next level is the Phonological Phrase (abbreviated 'P'), which groups together a syntactic Head with its adjacent complements and modifiers, as in the following lines :

(9)

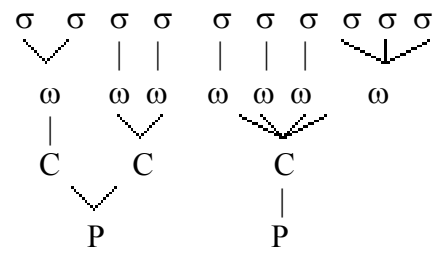
Douce ennemi en qui ma dolente âme



(Scève, Le Délie, CXCVII, 1)

(10)

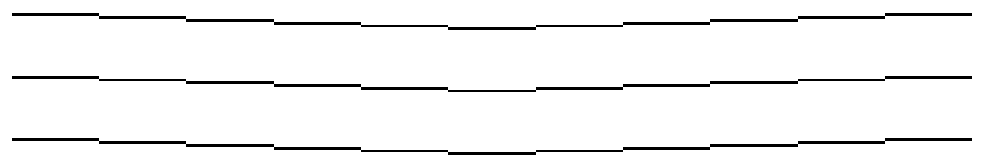
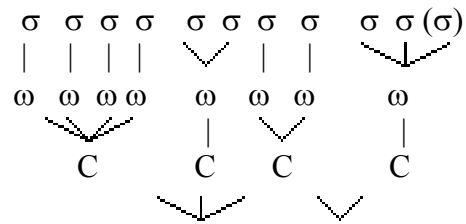
Ombre du vray que je suis adorant



(Ronsard, Les Amours, XXXIV, 6)

(11)

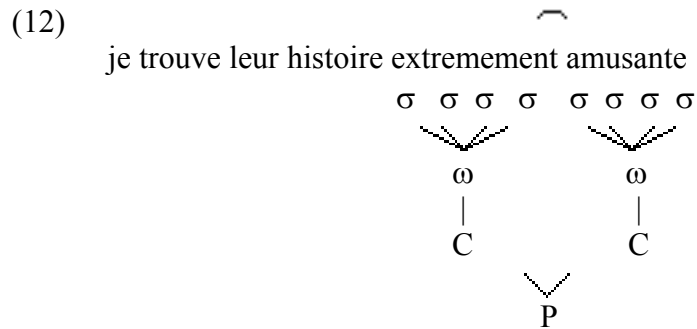
Et qui a veu sortir la belle Aurore



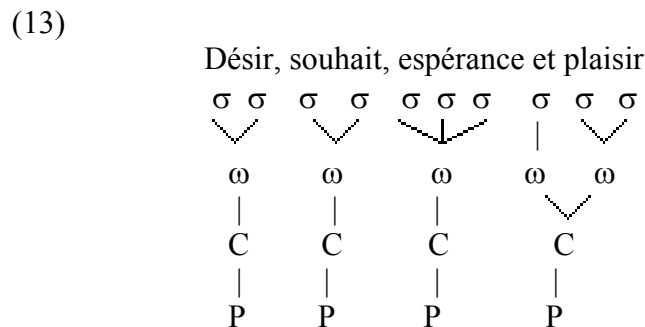
P P

(Du Bellay, L'Olive, XVI, 5)

Liaison typically applies within a Phonological group, but is not fully obligatory, as in the following context which undergoes liaison in relatively more careful dialects:



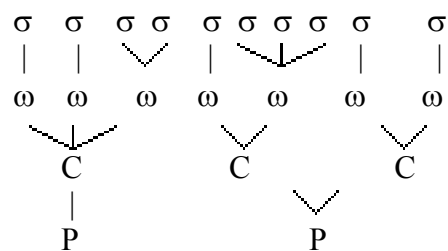
The last and strongest level of break analyzed is that between two Phonological Phrases. This occurs at a full syntactic break such as between two parallel phrases joined by a conjunction, or between a Noun Phrase and a Verb or a Verb Phrase, or a Verb and Noun or Noun Phrase, or a Verb and a Prepositional Phrase, or Noun phrase and a Prepositional Phrase, and so on. The following examples illustrate these contexts:



(Scève, *Le Délie*, CXCIV, 1)

(14)

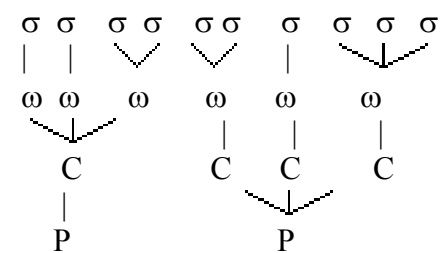
De ce penser qui devore mon cuoeur



(Ronsard, *Les Amours*, XXXV, 2)

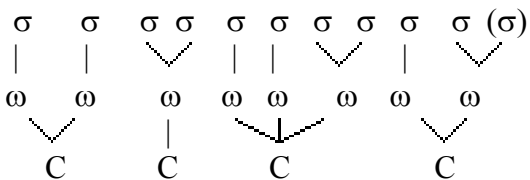
(15)

Si ma raison alloyt bien ensuyvant



(16)

Et l'ame erroit par ces levres de roses





Selkirk points out that this syntactic level rarely provides a liaison context, except for in some ‘frozen expressions’ such as ‘de mieux en mieux’ or ‘petit à petit’-- exceptions which were accordingly assessed with a lower level of break.

The higher level Intonational Phrase has been conflated here with the Phonological Phrase.

2.4 Verse Model

A noteworthy aspect of the Russian method noted in 1.5 has been the use of verse models, also termed here prose models (Gasparov (1989) and Tarlinskaja (1976; 1987)). A verse model is a collection of lines found in prose that are in coincidental agreement with the established rules of the relevant metrical tradition. The purpose of a verse model is to determine what statistical patterns found in poetry are general phonological tendencies of the poetry and what patterns are merely the language's regular concomitant phonological response to certain stress or pause constraints.

Here is an example of lines in English that could be used in a verse model. Shakespeare's rules for iambic pentameter which generated the line in (\$16), would also have allowed the prose lines in (\$17a) and (\$17b), taken from Ralph Ellison's Invisible Man:

(17)

foot foot foot foot foot
^ ^ ^ ^ ^
w s w s w s w s w s
In wingèd speed no motion shall I know

(Sonnets, 51, 8)

(18)

foot foot foot foot foot
^ ^ ^ ^ ^
w s w s w s w s w s
I looked at Mister Norton and stood up.

(Invisible Man, pg.57)

(19)

foot foot foot foot foot
^ ^ ^ ^ ^
w s w s w s w s w s
...these logical appeals which reached us more...

(Invisible Man, p.111)

The verse model examples above are both ten syllables in length, are preceded and followed by a break of some significance and their stress patterns are not in conflict with the acceptable Shakespearean stress patterns

The same approach was taken here, finding verse model lines from French prose of the Renaissance (from here on referred to as prose model lines) which corresponded to the constraints established for the second hemistich of the Classic French decasyllable and Classic French Alexandrine. These lines had to correspond to five basic constraints: (1) the sequences had to be six syllables in length, or with an extrametrical schwa as a seventh syllable; (2) they had to follow a stressed syllable and a syntactic break of some significance; (3) if the

syllable preceding the sequence was schwa, the sequence had to begin with a vowel; (4) the sequence had to end with a stressed syllable, or again with schwa as its seventh syllable; and finally (5) the sequence had to be followed by a syntactic break of some significance.

Note the following lines from Scève and Racine, and the prose model counterparts which coincidentally obey the same rules:

(1)

(1 2 3 4 5 6 (7))
 1 2 3 4 5 6 7 8 9 10 (11)
 De non mourir mais de revivre encore
 (Scève, Le Délie, XI, 8)

(2)

(1 2 3 4 5 6) (1 2 3 4 5 6 (7))
 1 2 3 4 5 6 7 8 9 10 11 12 (13)
 Fatigua vainement une mer immobile
 (Racine, Iphigénie, 50)

(21)

1 2 3 4 5 6 (7)
 (Emmanuel,) venu à la couronne, (les meit premierement...)
 (Montaigne, Essais, Livre I, p. 94)

(22)

1 2 3 4 5 6
 (enflez) d'artifice & labeur, (que de divinité.)
 (Ronsard, Abregé, p. 45)

(3)

1 2 3 4 5 6 (7)
 en laquelle, / ayant prins l'eau beniste / , fut receue...
 (Scève, La Magnificence, p. 559)

Notice that the schwa which precedes the prose model sequence in (\$) is followed by a vowel. In this analysis, if the phrase had not allowed for elision of these two vowels, e.g., if the line had been 'en lesquelles' instead of 'en laquelle', the piece of text would not have been considered a prose model line.

A statistical profile is then taken of the prose model lines and compared to the statistical profile of the appropriate verse. Comparing the two models helps to ensure that patterns of an anomalous frequency found in poetry are representative of a poet's intent rather than attendant responses of the language's phonology to established poetic constraints.

For the French prose models, I used the following prose works:

Author	Work	No. Lines
Du Bellay	<u>La Deffence de la langue françoise</u>	382
Montaigne	<u>Essais</u> , Livre I	496
Ronsard	“Abregé De l'art poétique françois” and several prefaces	493
Scève	<u>Flamecte</u>	493
Tyard	“Solitaire premier” and several prefaces	509
Totals		2373

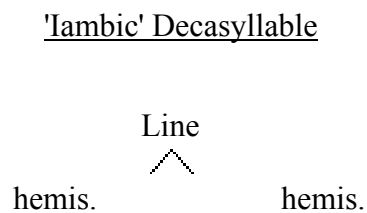
Table (2): Works of prose from which prose model lines were taken for break and stress profile analysis

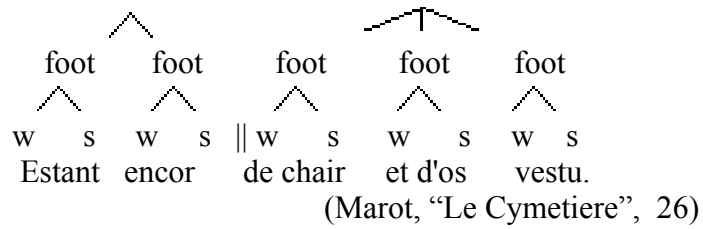
The prose works were chosen from the authors themselves so that their could be a control on the individual poet's syntactic or phonological idiosyncracies that could be checked as well as a general comparison of each poet against the prose model totals.

2.4.1 Importance of Prose models

Taking a prose model is an essential precaution because misleading patterns can and do emerge. In my own preliminary study of the relationship between non-stressed-stressed patterns versus stressed-non-stressed word-endings in the Classic French decasyllable (Biggs (1991); (1992), I found compelling data that suggested word boundaries were significant and meticulously placed by the poet so as to coincide with the underlying foot-pattern of the verse. This alignment I found was respected progressively more stringently towards the end of the line. In this study I had assumed, following Grammont (1937), that the second hemistich of the Classic French decasyllable was represented typically and fairly equally underlyingly by an iambic and anapestic pattern as follows:

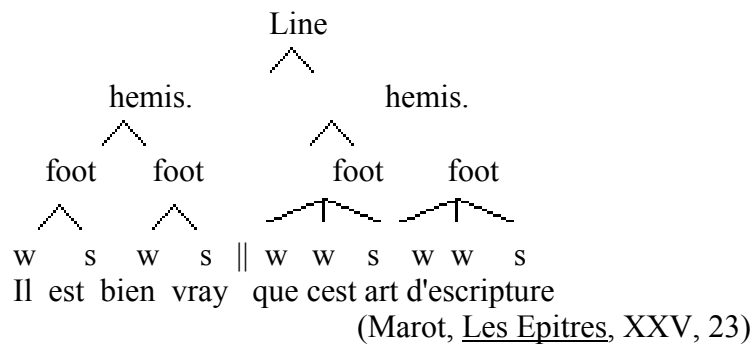
(23)





(24)

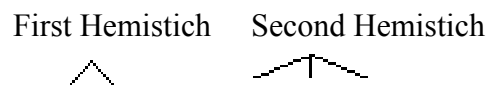
'Anapestic' Decasyllable

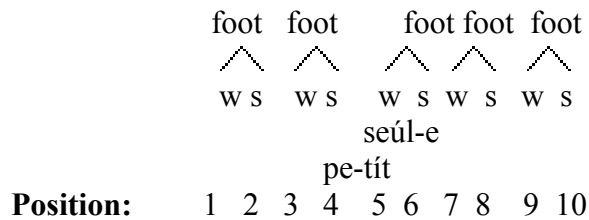


I then divided the lines according to which pattern they followed and took a statistical profile of each group of lines in terms of the word bracketing in the line. To make this more clear, the following examples are a position-by-position breakdown of matching and mismatching of word-bracketing of the second hemistich of the line. In examples (\$) through (\$), 'petit' represents a stress-final word while 'seule' represents a schwa-final word:

(25)

Stress in 5th position (iambs):



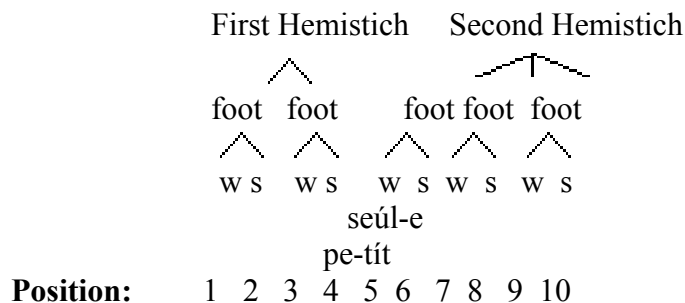


Here, the stress of 'seule' mismatches while the bracketing matches for the iambic foot pattern. 'Petit' cannot occupy the fourth and fifth positions of the line due to the caesural constraints of the line.

In the anapestic pattern things remain relatively similar:

(26)

Stress in 5th position (anapests):



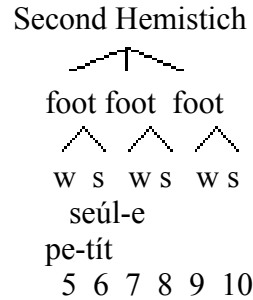
Here, the bracketing with 'seule' is not in violation of bracketing constraints but is nonetheless less ideal than in the iambic pattern; the stress is mismatched but less so than with the iambic pattern. 'Petit' again cannot occupy the fourth and fifth positions of the line due to the caesural constraint.

If stress falls in the sixth position in this analysis, it is necessarily iambic. As mentioned earlier, the only lines studied for this earlier analysis were lines

with a purely iambic or purely anapestic pattern. Therefore, an analysis of the anapestic line is unnecessary in this position:

(27)

Stress in 6th position (iamb):



Position:

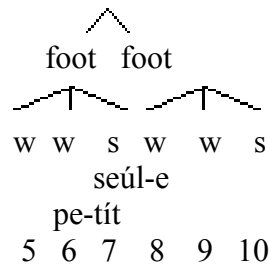
Here, with 'seule', the stress matches but the bracketing does not match the iambic pattern. Still, since it is near the beginning of the hemistich it is less of a violation. On the other hand, the word bracketing and stress patterns for 'petit' both match the pattern of the line.

As noted when discussing the absence of an anapestic pattern analysis for the sixth position of the line, if stress falls in the seventh position here, it can only be due to a purely anapestic line. Lines with stress in the sixth and seventh position for example, were considered potentially controversial anapestic lines and so were not included. Therefore, no analysis from an iambic perspective is needed here because there are no lines with stresses in iambic positions:

(28)

Stress in 7th position (anapest):

Second Hemistich



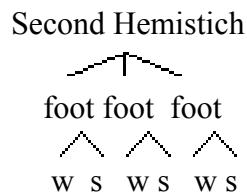
Position:

Here, the stress of 'seule' matches the anapestic stress pattern, but the word placement does not correspond to the underlying metrical grouping. Because the bracketing mismatch comes later in the line than that noted in the sixth position of the iambic pattern, it is considered more marked. The stress and the word-boundary placement for 'petit' both reflect the abstract metrical pattern, although 'petit' does not entirely fill the foot so is not a perfect bracketing match.

In the eighth position, anapestic lines with stress in the eighth position were again considered potentially controversial and therefore not considered as purely iambic lines. Therefore, only an iambic analysis of the eighth position of the line is relevant:

(29)

Stress in 8th position (iambs):



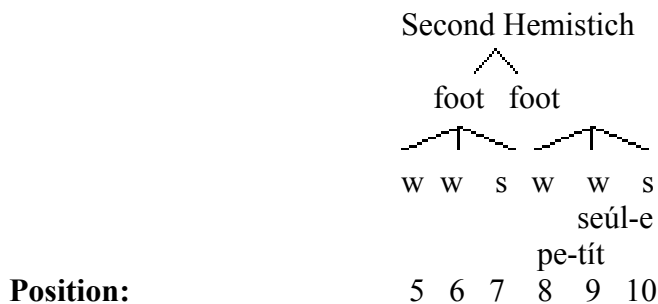


Here, 'seule' violates the stress constraint of Classic French decasyllable by forcing a schwa into the tenth position. For 'petit', the line is metrical but highly complex since both bracketing and stress mismatch. Because the word is later in the line than the previous bracketing mismatches, it is even more marked.

For the anapestic pattern, stress placement in the ninth position is not much better:

(31)

Stress in 9th position (anapests):



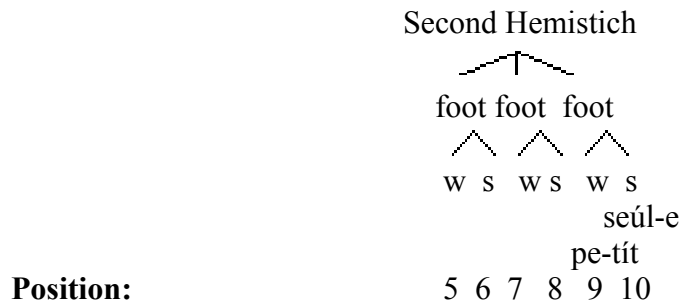
As with the iambic pattern, 'seule' cannot be placed in the ninth position because of the stress constraints of the Classic French decasyllable. For 'petit' the stress and the bracketing are mismatched as well, but the bracket mismatching is less

marked here than with the iambic pattern because the word still falls within the second foot of the anapestic hemistich.

In the tenth position stress is required, so there are again two foot patterns to analyze. The iambic pattern matches as follows:

(32)

Stress in 10th position (iambs):

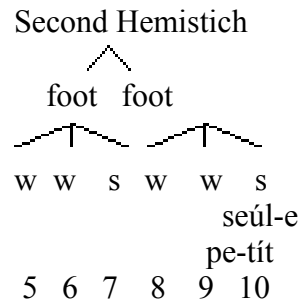


For 'seule' the second syllable falls outside of the relevant metrical positions: the '-e' if pronounced forms an extrametrical syllable. The bracketing of this word alone is therefore not mismatched although the fact that it occupies only one position of the third foot here represents somewhat of a bracketing mismatch. For 'petit', both bracketing and stress match.

Finally, stress falling in the anapestic pattern matches as follows:

(33)

Stress in 10th position (anapests):



Position:

The second syllable of 'seule' falls outside of the relevant metrical positions. The bracketing of this word alone is therefore not mismatched, but that it occupies only one position of the three position foot represents something of a bracketing mismatch. Stress in 'petit' is matched, and the bracketing, although less perfect than in the iambic pattern, is nonetheless close to perfect.

In the following chart, the number of times that stress and a word boundary coincided is listed at each position of the line in the numerator and in the denominator is listed the number of times that the stress of a schwa-final word fell in the position, causing a mismatching of word bracketing. The percentages shown in the table indicate the frequency of word-bracketing mismatches with stress-bracketing. Notice the steady decline in bracketing mismatches from left to right in the table:

Word Bracketing: Poetry			
Author	Position in Decasyllabic Line		
	6th	7th	8th
Du Bellay	52/54 (51%)	109/54 (33%)	97/24 (19.8%)
Ronsard	52/58 (52.7%)	106/52 (32.9%)	83/19 (19.8%)
Sceve	49/38 (43.7%)	86/45 (34.4%)	89/19 (17.6%)
Tyard	61/44 (41.7%)	84/37 (30.6%)	98/30 (23.4%)

Table 3: Placement of oó vs. óo patterns in the iambic and anapestic patterns of the French decasyllable and percentage of word bracketing mismatches with metrical bracketing.

These results suggested that word bracketing is significant in determining the metrical tension of the Classic French Decasyllable, bracketing being more loosely followed early in the line and progressively more closely towards the end of the line. These results corroborated similar findings by Verluyten (1989), who studied the hemistichs of the Classical French Alexandrine, the traditional metrical rules of which which are identical to the rules for the second hemistich of the Classic French decasyllable. Verluyten noted a rarity of cases such as 'seule' in (\$) above. This progressive dominance of the underlying pattern was also observed in other metrical traditions, as discussed in 1.1 of this analysis.

Subsequent to completing this work, I took the stress and break profiles of a prose model of each poet. The results of the prose model, shown below together with the results for poetry, suggested that the word bracketing effect that seemed to be at play in poetry was not an independent tendency but rather a by-product of other constraints for the line:

Word Bracketing: Poetry vs. Prose Model			
	6th Position	7th Position	8th Position
Du Bellay	52/54	109/54	97/24
(Poetry)	(51%)	(33%)	(19.8%)
Du Bellay	40/48	99/55	70/31
(Prose)	(55%)	(35%)	(31%)
Montaigne	54/51	126/64	83/13
(Prose)	(48.5%)	(33.6%)	(13.6%)
Ronsard	52/58	106/52	83/19
(Poetry)	(52.7%)	(32.9%)	(19.8%)
Ronsard	76/64	105/53	71/23
(Prose)	(45.5%)	(33.5%)	(24.5%)
Sceve	49/38	86/45	89/19
(Poetry)	(43.7%)	(34.4%)	(17.6%)
Sceve	53/57	104/61	117/27
(Prose)	(51.8%)	(36.9%)	(18.8%)
Tyard	61/44	84/37	98/30
(Poetry)	(41.7%)	(30.6%)	(23.4%)
Tyard	44/44	142/65	93/11
(Prose)	(50%)	(31.4%)	(10.6%)

Table 4: Placement of oó vs. óo patterns in the iambic and anapestic patterns

of poetry and prose model lines and percentage of word bracketing and metrical bracketing mismatches.

The addition of these results for prose suggest that, contrary to the impression given in the poetry results of the preceding table, word placement in the Classic French decasyllable is a consequence of other constraints in the line rather than an independent poetic intention. It is not clear why these robust patterns should be present in both prose and poetry, but whatever the reason, it is not a metrical one.

2.5 Statistics Gathered

To help in determining the underlying pattern of the line, three profiles were taken: (1) stress profile; (2) break profile; and (3) stress pattern profiles for the second hemistich. The stress profile is the frequency that a linguistic stress falls in each position of the hemistich. The break profile states the frequency with which any type of phonological break occurs between any two positions in the line. The stress pattern profile represents the frequency with which each of the logically possible stress patterns for the second hemistich are instantiated. For a six syllable hemistich, these number 32 (2^5 , since stress is obligatory in the sixth position). These patterns are as follows ('0' signifies no stress and '1' signifies stress):

1	000001	17	100001
2	000011	18	100011
3	000101	19	100101
4	000111	20	100111
5	001001	21	101001
6	001011	22	101101
7	001101	23	101011
8	001111	24	101111
9	010001	25	111111
10	010011	26	110001
11	010101	27	110011
12	010111	28	110101
13	011101	29	110111
14	011111	30	111011
15	011011	31	111001
16	011001	32	111101

Table 4: List of all possible stress patterns for second hemistich of the Classic French decasyllable

2.6 **Statistical Testing**

To determine whether differences in frequencies between prose and poetry merited interest or were simply chance results, chi-square tests on each result were conducted. Chi-squares indicate the probability that the difference in the frequencies recorded of a given pattern, tested from two different data samples, in this case prose and poetry, stem from chance (Anshen (1978)). A chi-square is

computed by taking the actual frequency of each data result and subtracting it from the expected frequency of each result, then squaring each result and then dividing by the expected frequency and adding up all the results. The following data is a cross-section of the data to be studied here and will serve as an example:

Author	Placement of Stress in seventh Position	Placement of non-stress in seventh Position	Totals
Ronsard Poetry	493	529	= 1022
Ronsard Prose	199	294	= 493
Totals	692	823	= 1515

Table 6: Placement of stress in Ronsard's Les Amours and L'Art de la poetique françois in the seventh position of the Classic French decasyllable.

First, to compute the expected values of the frequencies above, the null hypothesis is that there will be no difference between the frequencies found in prose and in poetry. The frequencies of each are therefore added and the overall percentages are determined. So here, out of a total of 1515 lines, stress fell in the seventh position of the line 692 times (45.6%) and no stress fell in the seventh position a total of 823 times (54.4%). The expected values for stress in the seventh position of Ronsard's Poetry would therefore be $1022 \times 45.6\% = 466$ lines and for non-stress in the seventh position $1022 \times 54.4\% = 556$. Doing the same for prose, the expected values are $493 \times 45.6\% = 225$ for stress and $54.4\% \times 493 = 268$ for non-stress, as shown in the following table:

Expected Values		
	7th Position	
Author	No-Stress	Stress
Ronsard Poetry	556	466
Ronsard Prose	268	225

Table 7: Expected values for Ronsard Poetry and Ronsard Prose.

The actual frequencies are then subtracted from the expected frequencies, squared, and then divided by the expected result. The results are then added as follows:

$$\begin{aligned}
 (35) \quad & \frac{(466-493)^2}{466 + 225} + \frac{(225-199)^2}{556 + 268} + \frac{(556-529)^2}{466 + 225} + \frac{(268-294)^2}{556 + 268} \\
 & (1.56) \qquad (3.00) \qquad (2.46) \qquad (2.52) \qquad = 9.54
 \end{aligned}$$

To understand what the number in (\$49) means, the degrees of freedom for the table must now be determined. This is done by multiplying the number of rows minus one by the number of columns also minus one that are in the above table (excluding the total rows). The degrees of freedom here are therefore $(2-1) \times (2-1) = 1$. Consulting the chi-square table below (from Anshen (1978)), the null hypothesis can therefore be rejected at less than .005 level of significance, since 9.54 is greater than 7.88, the number required to reject the null hypothesis at the .005 level. A .005 level of significance means that there is a .5% or one-half percent chance that the two numbers differ purely because of chance--or a 99.5% likelihood that the results are not due to chance.

ν	$c^2 .995$	$c^2 .99$	$c^2 .975$	$c^2 .95$
1	7.88	6.63	5.02	3.84
2	10.6	9.21	7.38	5.99
3	12.8	11.3	9.35	7.81

Table 8: Percentile values for the Chi-Square Distribution with ν degrees of freedom

To make matters more exact in this analysis, I have tabulated the exact levels of significance for all the results obtained.

One caveat concerning these statistics: conclusions should not be drawn from frequencies on a test sample of this size of less than about five per column. The levels of significance tabulated from frequencies of less than five can only be regarded as rough indicators of significance.

3. Results

A word should then be noted about the meaning of the tables to follow. The data found in these tables and in Appendix A, Appendix B and Appendix C represent the stress, break and stress pattern profiles for the second hemistich. The results in the second and third column represent the frequencies that a given pattern occurred. The fourth column indicates the significance level or p-value of the chi-square test performed for that position. The lower the p-value, the more significantly the difference in the numbers between poetry and prose can be established as not stemming from coincidence. Provided that the frequencies are sufficiently attested, a p-value of less than 5% is considered significant.

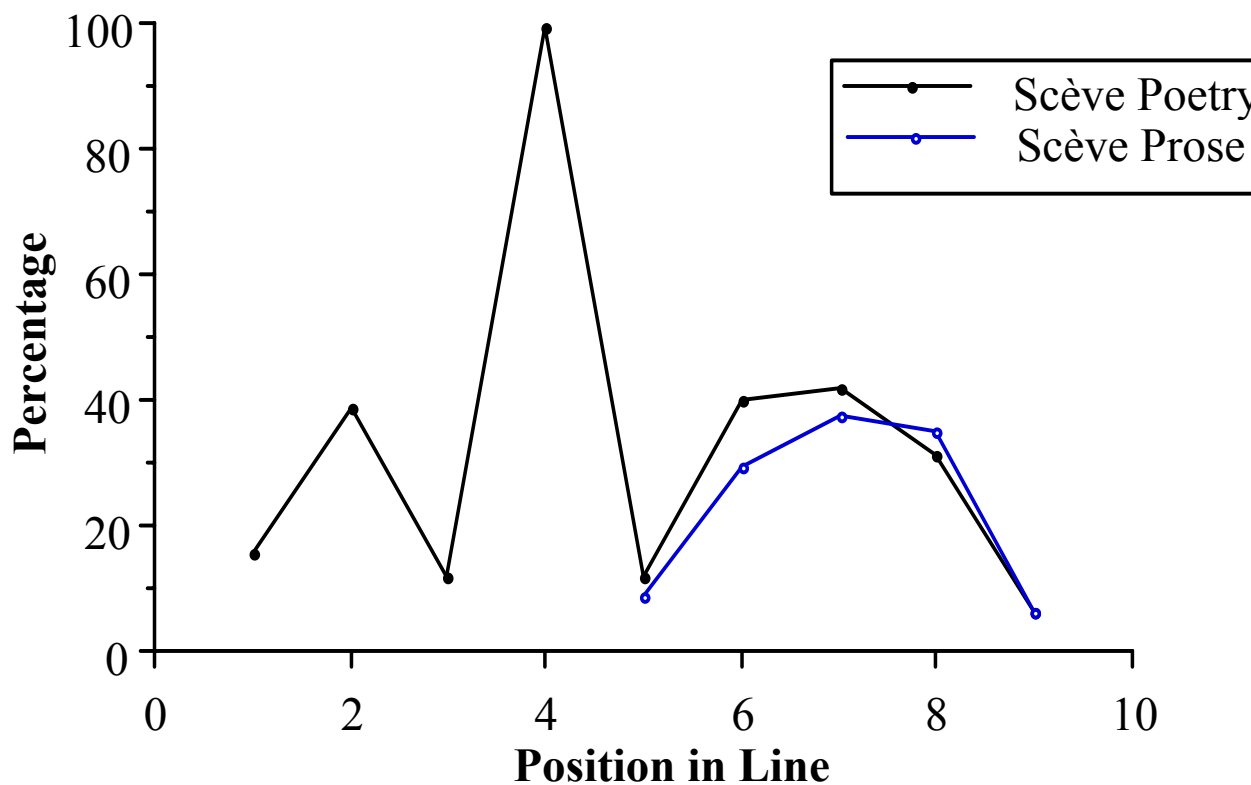
3.1 Scève

The following analysis is a comparison of approximately a thousand lines of Scève's poetry against approximately five hundred of his prose model lines.

3.1.1 Stress Profiles: Scève Poetry vs. His Own Prose

Taking a look at where Scève places stress in the second hemistich, it seems that as a rule Scève preferred to place stress earlier in the second hemistich. In Table (\$) below, notice that the fifth and sixth positions of the line are significant for poetry, and the seventh is almost so, while the eighth position is more common in his prose:

Scève Stress Profile: Poetry vs. Own Prose Model



Graph (\$): Placement of stress in second hemistich of Scève's poetry compared to his prose.

Stress in Position	Poetry (989 lines)	Prose (493 lines)	chi-square
5	120	43	.0480 poetry
6	396	145	<.0001 poetry
7	417	185	.0867 poetry
8	307	173	.1165 prose
9	64	31	.8921 poetry

Table 1: Scève Poetry vs. Scève Prose: Frequency of stress in position of line and chi-square significance for frequencies observed.

That the ninth position is close to even suggests that there is not a major dispreference for stress at this position in Scève's poetry, a result which puts into question the argument of some metrists (Grammont (1937)) that stress is dispreferred in this position in poetry. It appears more likely from these results that adjacent stresses are avoided in the language in general.

Furthermore, if the stress pattern of the poetic line were analyzed without the use of a prose model, statistically it might fairly reasonably have been argued, following the numbers, that the poet's stress placement in the second hemistich of the line tends to be in the seventh position; in light of the prose model, however, this appears to be more a by-product of other constraints in the line than an independent metrical effect.

To achieve a full understanding of the line, it is of interest to analyze not only the number of stresses that fall in each position independent of where neighboring stresses fall, but also the stress pattern profiles for the entire hemistich. As noted in 2.5 and 3.0 there are thirty-two stress patterns. The following tables are the results for these patterns, comparing Scève's poetry to his own prose:

Significantly More Common in Poetry:			
Stress Pattern	Scève Poetry (989 lines)	Scève Prose (493 lines)	chi-square
101001	42	10	.0288

010001	196	76	.0391
Significantly More Common in Prose			
Stress Pattern	Scève Poetry (989 lines)	Scève Prose (493 lines)	chi-square
000001	44	48	<.0001
000101	133	98	.0013

Table 2: Scève Poetry vs. Scève Prose: second hemistich stress patterns testing at a significant level for poetry or for prose and the frequency each pattern was attested.

Notice that compared to his own prose, the numbers suggest in general that Scève did use stress in the line significantly more in his poetry than his prose. A pattern of particular significance for poetry was the 101001 pattern, examples of which follow:

(1)

(1 0 1 0 0 1)
 1 2 3 4 5 6 7 8 9 10
 , , , , ,

Ton doux venin, grace tienne, me fit
 (Le Délie, III, 1)

(2)

(1 0 1 0 0 1)
 1 2 3 4 5 6 7 8 9 10 (11)
 , , , , ,

Va! Ta demande est, dit-elle, importune
 (Le Délie, CIX, 7)

(3)

(1 0 1 0 0 1)
 1 2 3 4 5 6 7 8 9 10

\ \ \ \ \
 Ma dame ayant l'arc d'Amour en son poing
 (Le Délie, V, 1)

Lines with stress in the sixth and tenth positions (010001) also tested significantly for Scève's poetry. Here again are some examples:

(4)

(0 1 0 0 0 1)
 1 2 3 4 5 6 7 8 9 10 (11)
 \ \ \ \ \
 Vint pénétrer en l'Ame de mon Ame
 (Le Délie, I, 6)

(5)

(0 1 0 0 0 1)
 1 2 3 4 5 6 7 8 9 10 (11)
 \ \ \ \ \
 Non de Paphos, delices de Cypris
 (Le Délie, IX, 1)

(6)

(0 1 0 0 0 1)
 1 2 3 4 5 6 7 8 9 10 (11)
 \ \ \ \ \
 Que contre moy son dard à desbandé.
 (Le Délie, XVI,4)

As for Scève's prose, it is more common when comparing it to his own poetry to have no secondary stress in the six syllable sequence (000001), such as in the following prose model lines:

(7)

(0 0 0 0 0 1)
 5 6 7 8 9 10 (11)

souffrant] elle m'est patiente [, qui me...
 (Flamète, p.508)

(8)

(0 0 0 0 0 1)
 5 6 7 8 9 10

allegement] a la compassion [que j'ay d'elle
 (Flamète, p. 430)

Also testing significantly for prose was the 000101 pattern, which puts a secondary stress later in the six syllable sequence, such as the following prose model lines illustrate:

(9)

(0 0 0 1 0 1)
 5 6 7 8 9 10 (11)

se consolant,] et lamentant a elles [, vouloit bien...
 (Flamète, p.428)

(10)

(0 0 0 1 0 1)
 5 6 7 8 9 10 (11)

delivre] et qu'a semblable cas [je me voulusse...
 (Flamète, p. 431)

It remains to be seen whether such pattern profiles prove similar for other poets, yet the statistics here strongly suggest that stress plays a significant role in the composition of the line.

The following stress pattern profiles did not test beyond a 5% significance level and so were inconclusive:

Favored, but not Statistically Significant for Poetry			
Stress Pattern	Scève Poetry (989 lines)	Scève Prose (493 lines)	chi-square
010011	20	4	.0818
011001	48	15	.1035
010101	100	38	.1336
110001	10	3	.4335
001001	268	129	.7027
100101	27	12	.7374
Favored, but not Statistically Significant for Prose			
Stress Pattern	Scève Poetry (989 lines)	Scève Prose (493 lines)	chi-square
000011	12	11	.1353
001011	11	9	.2621
100001	20	11	.7911
001101	28	14	.9925

Table 3: Scève Poetry vs. Scève Prose: second hemistich stress patterns not testing

at a significant level for poetry or for prose and the frequency each pattern was attested.

Notice that among the lines that tested at close to a significant rate, the general tendency for those leaning towards poetry is iambic. The empty middle foot, heavy final foot 010011 pattern, the inverted middle foot 011001 pattern (which could admittedly also be argued to be a heavy initial foot anapest), and the straight iambic 010101 pattern are all possible and realized iambic pentameter variations in English. For prose in this table, all the patterns either begin with at least two unstressed syllables or have a series of four stressless syllables within their six syllable pattern.

In the following table are those patterns which did not occur enough to achieve an accurate chi-square:

Insufficient Data			
Stress Pattern	Scève Poetry	Scève Prose	chi-square
100011	5	0	.1138
101011	0	1	.1565
101011	0	1	.1565
000111	2	3	.2038
110101	5	1	.3872
110111	1	0	.4800
110011	1	0	.4800
001111	1	0	.4800
101101	4	1	.5238
010111	1	1	.6152
011011	1	1	.6152
011101	5	3	.7988
111001	4	2	.9972
111111	0	0	n/a

011111	0	0	n/a
111011	0	0	n/a
101111	0	0	n/a
111101	0	0	n/a

Table 4: Scève Poetry vs. Scève Prose: second hemistich stress patterns not attested at a sufficient level to achieve an accurate chi-square result.

For the most part, these patterns had a high number of adjacent stresses (i.e., more than one set) within a single pattern. Their small numbers in prose and poetry suggest that the fact that they happen uncommonly in poetry is due more to the nature of the French language than to the constraints of the meter.

3.1.2 **Break Profile: Scève Poetry vs. Own Prose Model**

To see if there are distinct word bracketing phenomena in the line which might be distinguished in addition to the stress patterns, I analyzed the placement in the hemistich of the four levels of break which were discussed in 2.3. In the following table are the results of the chi-squares taken from the frequencies recorded of the four break levels after each position in Scève's poetry against those frequencies recorded from his prose model. The cohesion index listed below represents the combined results from the two weakest levels of break (within a word and within a clitic group), while the disjuncture index represents the combined results for the two strongest levels of break (within a phonological group and a full break). The frequency of each position is not listed here but can be found in Appendix A:

Scève Poetry vs. Scève Prose					
	Position in Decasyllabic Line				
Break Level	5	6	7	8	9
Within Word	.0148 poetry	.0007 prose	.0917 prose	.0007 poetry	.0095 poetry
Within Clitic Group	.0102 prose	.0328 prose	.5905 poetry	.0179 prose	.0007 prose
Cohesion Index	.5758 prose	<.0001 prose	.2052 prose	.2051 poetry	.7232 prose
Within Phonological Phrase	.1224 poetry	.0006 poetry	.9491 poetry	.0389 prose	.6616 poetry
Full Break	.6294 poetry	<.0001 poetry	.0407 poetry	.2243 poetry	.7344 poetry
Disjuncture Index	.1253 poetry	<.0001 poetry	.1083 poetry	.2511 prose	.5926 poetry

Table 5: Scève Poetry vs. Scève Prose: chi-square results in each position of the second hemistich for the four different levels of syntactic break studied in this analysis; frequencies in Appendix A.

There are several tendencies which emerge. The results suggest most clearly that Scève's poetry puts the two higher level breaks after the sixth position significantly more frequently than in prose. Furthermore, full breaks are more frequent in poetry at every position of the line, although at a significant level only in the sixth and seventh positions.

A somewhat unexpected result is the change in significance levels and distinction between levels of phonological breaks which occurs after the fifth,

eighth and ninth positions of the line at the weakest two levels of break. Notice that Scève's poetry insists on the tightest level of cohesion at these positions of the line, testing significantly for poetry at the word-level but significantly for prose at the clitic level. Thus, word placement in the line is significant here, as well as the level of phonological cohesion, and Scève consciously or unconsciously makes a discrepancy between these two levels of breaks. From a word-bracketing perspective alone, ignoring the stress placement tendencies of the poet, the statistics suggest the line is least marked metrically if rendered as follows:

(11)

	1	2	3	4	5	6	7	8	9	10	
	Q	e	d	e	s	e	s	y	e	x	l'
	a	r	c	h	i	e	r	t	o	u	
	t	o	u	t	b	e	l	l	e	m	
	e	n	t								

(Scève, Le Délie, VI, 7)

(12)

	1	2	3	4	5	6	7	8	9	10	(11)
	V	e	u	x	t	u	,	d	i	t	-
	i	l	,	D	a	m	e	,	l	u	
	y	s	a	t	i	s	f	a	i	r	
	e										

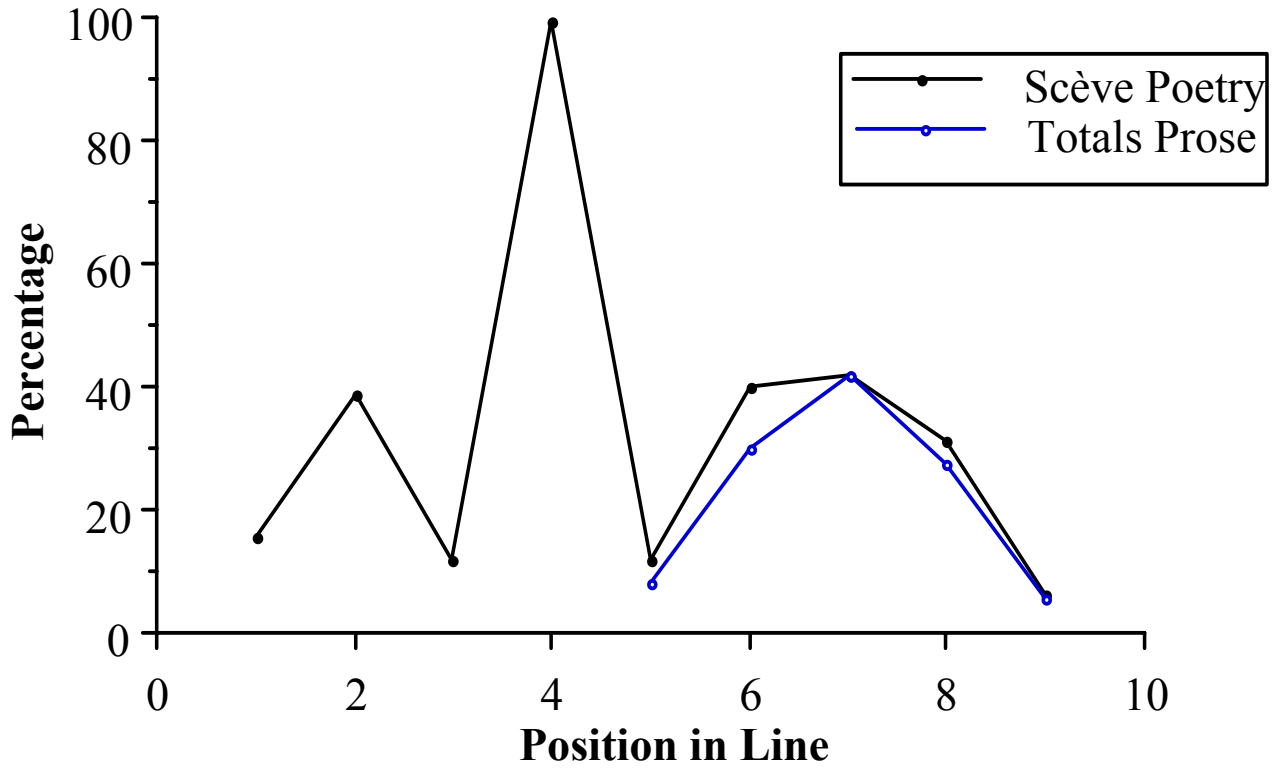
(Scève, Le Délie, VIII, 5)

Notice that the stresses in the first line fall on the sixth, seventh and tenth positions while the stresses in the second fall in the fifth and tenth. The bracketing does not change, however, showing that stress and bracketing are not necessarily dependent on one another. In terms solely of bracketing, the statistics show that a second hemistich beginning with a two syllable word and ending with a three syllable word is the least metrically marked rendering of the line.

3.1.3 Stress Profiles: Scève Poetry vs. Prose Model Totals

In the pursuit of a better understanding of the underlying nature of the Classic French decasyllable, it is important not only to analyze how each poet distinguishes his poetry from his own prose, but how they compare against a prose model backdrop combining all the poets. This more objective composite allows clearer comparisons between poets. The following table matches Scève's poetry (989 lines) with the totals of all the prose models taken for this period (2373 lines). The largeness of these numbers also gives the potential for more definitive chi-square results. Notice in the following table how the chi-square results test in general at a more significant level:

Scève Stress Profile: Poetry vs. Totals of Prose Model Lines



Graph 2: Scève Poetry vs. Prose Model Totals: placement of stress in second hemistich of the line.

Stress in Position	Poetry (989 lines)	Prose (2373 lines)	chi-square
5	120	190	.0002 poetry
6	396	708	<.0001 poetry
7	417	1000	.9902 poetry
8	307	650	.0326 poetry

9	64	135	.3812 poetry
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Table 6: Scève Poetry vs. Prose Model Totals: frequency of stress in position of line and chi-square significance for frequencies observed.

The pattern as a whole becomes much clearer; the fifth position and sixth are very clearly significant for poetry, while the seventh position or anapestic pattern shows no preference. The eighth position, which was almost significant for prose when Scève's poetry was compared with his prose, is now significant when matched up against the totals, but here for *poetry*.

There are two possibilities for the change in significance at the eighth position of the line: (1) Scève's sense of euphonious phrasing may have had as its model stress in the antepenultimate and ultimate syllables which he realized relatively equally in his prose and verse; or more likely (2) the larger test sample proves a more accurate indicator of the poet's metrical intent because of the increased test sample size. If the second is true, notice that the significant preference for stress in poetry in the sixth and eighth positions resembles results that might be expected from iambic pentameter. The significance for stress in the fifth position of Scève's poetry, however, may at first seem contrary to an iambic pattern. Yet such a result is consistent with much of the English iambic tradition where placing stress in a weak position of the line occurs frequently after particularly strong breaks. The required caesura in the fourth position of the Classic French decasyllable would qualify as just such a strong break. Looking at the first position of an iambic pentameter then, stress in this weak position is attested with similar frequency to that of the fifth position of the Classic French

decasyllable. Notice the inversions of stress in the first positions of the following examples from Shakespeare:

(13)

, , , , ,
Father and wife and gentlemen adieu
W S W S W S W S W S
 (Taming of the Shrew, II, i, 314)

(14)

, , , , ,
Tamer than sleep, fonder than ignorance
W S W S W S W S W S
 (Troilus and Cressida, I, i, 9)

(15)

, , , , ,
Fierce to their skill and to their fierceness valiant
W S W S W S W S W S
 (Troilus and Cressida, I, i, 8)

To give a clearer picture of how these positions match statistically, I have taken Tarlinskaja's (1976) prose model results from Swift (625 lines) and performed chi-square tests with Tarlinskaja's (1987) stress profile of Shakespeare's Sonnets (2156 lines). The primary purpose here is to determine if stress in the first position of Shakespeare falls at a significance level consistent with the significance level of stress in the fifth position of Scève's Classic French decasyllable:

Stress in Position	Shakespeare Sonnets (2156 lines)	Swift Prose Model (625 lines)	chi-square
1	500	82	<.0001 poetry
2	1436	400	.2261 poetry

3	241	112	<.0001 prose
4	1921	384	<.0001 poetry
5	224	82	.0548 prose
6	1542	336	<.0001 poetry
7	198	122	<.0001 prose
8	1630	337	<.0001 poetry
9	185	56	.7666 prose
10	2033	502	<.0001 poetry

Table 7: Shakespeare's Sonnets (2156 lines) vs. Swift's Prose (625 lines): chi-square results and frequencies at each position of the line.

While the significance levels are on the whole much more pronounced, the picture is strikingly similar: poetry is significantly favored in the sixth and eighth positions, prose markedly favored in the seventh position, and results are inconclusive in the ninth position. Notice further that the chi-square result for Shakespeare's Sonnets in the first position is skewed beyond a .01% level of significance for placing stress in this position in poetry, something which, if one is unfamiliar with Shakespeare's correspondence rules, seems surprising for a weak position in the line. The chi-square result for Scève in the fifth position tests at close to the same level as the first position for Shakespeare. Scève's decasyllable, in short, tests fairly consistently with Shakespeare's iambic pentameter.

A look at Scève's poetry stress pattern profiles against the prose totals also brings this iambic tendency further to light:

Patterns Significant for Poetry:

Stress Pattern	Scève Poetry (989 lines)	Totals Prose (2373 lines)	chi-square
010101	100	144	<.0001
101001	42	46	.0001
110001	10	10	.0428
Patterns Significant for Prose			
Stress Pattern	Scève Poetry (989 lines)	Totals Prose (2373 lines)	chi-square
000001	44	259	<.0001
001001	268	738	.0209

Table 8: Scève Poetry vs. Prose Model Totals: second hemistich stress patterns testing at a significant level for poetry or for prose and the frequency each pattern was attested.

While the inverted iambic pattern still tests significantly for poetry, the straight iambic pattern tests significantly for poetry as well. On the other hand, the anapestic pattern tests significantly for *prose*, something that suggests that the anapestic stress pattern, while commonly seen in poetry, is nonetheless dispreferred by Scève as a distinct stress effect when his prose tendencies are taken into consideration.

The 110001 pattern is something of a surprise, and since there are few cases here, it is of interest to take a look at a representative grouping of them:

(16)

(1 1 0 0 0 1)
1 2 3 4 5 6 7 8 9 10
, , , ,

Qui sur le dos deuz aeles luy paignit

(Le Délie, XXVIII, 2)

(17)

(1 1 0 0 0 1)
1 2 3 4 5 6 7 8 9 10
, , , , , , , , , ,

En coeur Royal, hault siege de l'honneur
(Le Délie, LIV, 2)

(18)

(1 1 0 0 0 1)
1 2 3 4 5 6 7 8 9 10
, , , , , , , , , ,

Lict coustumier, non point de mon repos
(Le Délie, C, 2)

(19)

(1 1 0 0 0 1)
1 2 3 4 5 6 7 8 9 10
, , , , , , , , , ,

Le Sens troublé voit choses controvées
(Le Délie, LVI, 3)

(20)

(1 1 0 0 0 1)
1 2 3 4 5 6 7 8 9 10
, , , , , , , , , ,

Mais du malheur, qui, comme j'apperçoy
(Le Délie, LXX, 5)

In the ten lines of poetry with this pattern, in all but one (shown in \$) the adjacent stresses were part of the same phonological group, and so the initial stress most likely underwent some degree of stress subordination to the following stressed syllable. The only instance where this is not the case is (\$) where the stresses of 'qui' and 'comme' are not part of the same phonological group. This is, however, the only exception among the ten lines. It seems likely therefore that the statistical

significance of the 110001 pattern stems largely from its role as a subset of the 010001 pattern, a pattern which also tested significantly for poetry.

The following patterns favored poetry, but not significantly:

Favored, but not Statistically Significant for Poetry			
Stress Pattern	Scève Poetry (989 lines)	Totals Prose (2373 lines)	chi-square
011001	48	83	.0642
010011	20	29	.0777
100101	27	46	.1513
010001	196	422	.1652
011101	5	7	.3509
001101	28	61	.6681
Favored, but not Statistically Significant for Prose:			
Stress Pattern	Scève Poetry (989 lines)	Totals Prose (2373 lines)	chi-square
000101	133	356	.2441
001011	11	38	.2809
100001	20	53	.7018
000011	12	32	.7534

101101	4	10	.9445
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Table 9: Scève Poetry vs. Prose Model Totals: second hemistich stress patterns not testing at a significant level for poetry or for prose and the frequency each pattern was attested.

Notice that the patterns 011001 and 010011 tested very close to a significant level for poetry. As noted in the 110001 pattern for Scève which tested significant for poetry, these lines may well be subsets of the patterns 001001 and 010001 respectively. On the other hand, the pattern 000101 favors prose, seeming to suggest, though not at a significant level, that a first stress late in the hemistich, i.e., the eighth position or after, is not a common metrical rendering of the poet. Since, however, these numbers are not statistically significant, their hint at a tendency can only be seen as faint.

The following patterns were not attested sufficiently to achieve an accurate chi-square result:

Insufficient Data			
Stress Pattern	Scève Poetry (989 lines)	Totals Prose (2373 lines)	chi-square
110101	5	1	.0037
111001	4	2	.0451
110011	1	0	.1213
000111	1	1	.1093
100011	5	5	.1526
101011	0	3	.2633
100111	0	2	.3611
011011	1	5	.4927
111101	0	1	.5185
111011	0	1	.5185

101111	0	1	.5185
001111	1	1	.5228
110111	1	1	.5228
010111	1	2	.8816
011111	0	0	n/a
111111	0	0	n/a

Table 10: Scève Poetry vs. Prose Model Totals: second hemistich stress patterns not attested at a sufficient level to achieve an accurate chi-square result.

3.1.4 Break Profiles: Scève Poetry vs. Totals of Prose Model Lines

Matching the break profiles of the line against the prose model totals, other potential nuances of the hemistich are brought to light:

Scève Second Hemistich Poetry vs. Totals Prose					
Break Level	Position in Decasyllabic Line				
	5	6	7	8	9
Within word	.1076 poetry	<.0001 prose	.3898 prose	.1937 poetry	.0043 poetry
Within Clitic Group	.0014 prose	.0164 prose	.5013 poetry	.0013 prose	.0001 prose
Cohesion Index	<.0001 prose	<.0001 prose	.7669 prose	.1394 prose	.0359 prose

Within Phonological Phrase	<.0001 poetry	<.0001 poetry	.1180 prose	.6009 prose	.0839 poetry
Full Break	.0025 poetry	<.0001 poetry	.0165 poetry	.0006 poetry	.1556 poetry
Disjuncture Index	<.0001 poetry	<.0001 poetry	.6713 poetry	.1383 poetry	.0344 poetry

Table 11: Scève Poetry vs. Prose Model Totals: chi-square results in each position of the second hemistich for the four different levels of syntactic break studied in this analysis; frequencies for the above can be found in Appendix B.

Scève's poetry compares differently against the prose model totals than against his own prose model lines. At the word level, while there is a marked avoidance for placing a word-unit in the sixth and seventh positions, the fifth position is no longer significant for poetry. At the clitic level, the results do not vary significantly from the previous comparison: they are significant after the fifth, sixth, eighth and ninth positions of the line. Contrary to the previous break comparison, however, breaks within a phonological phrase now occur significantly more for poetry after the fifth position, also still occurring significantly for poetry after the sixth position of the line. As before, full breaks are significantly more common at every position of the poetic line except the last.

It should be kept in mind that Scève is the earliest of the poets analyzed here. Although it is true that this study covers poets who composed over a relatively brief span of time, it will be interesting to see if there is nonetheless any evolution in the placing of stress in the line.

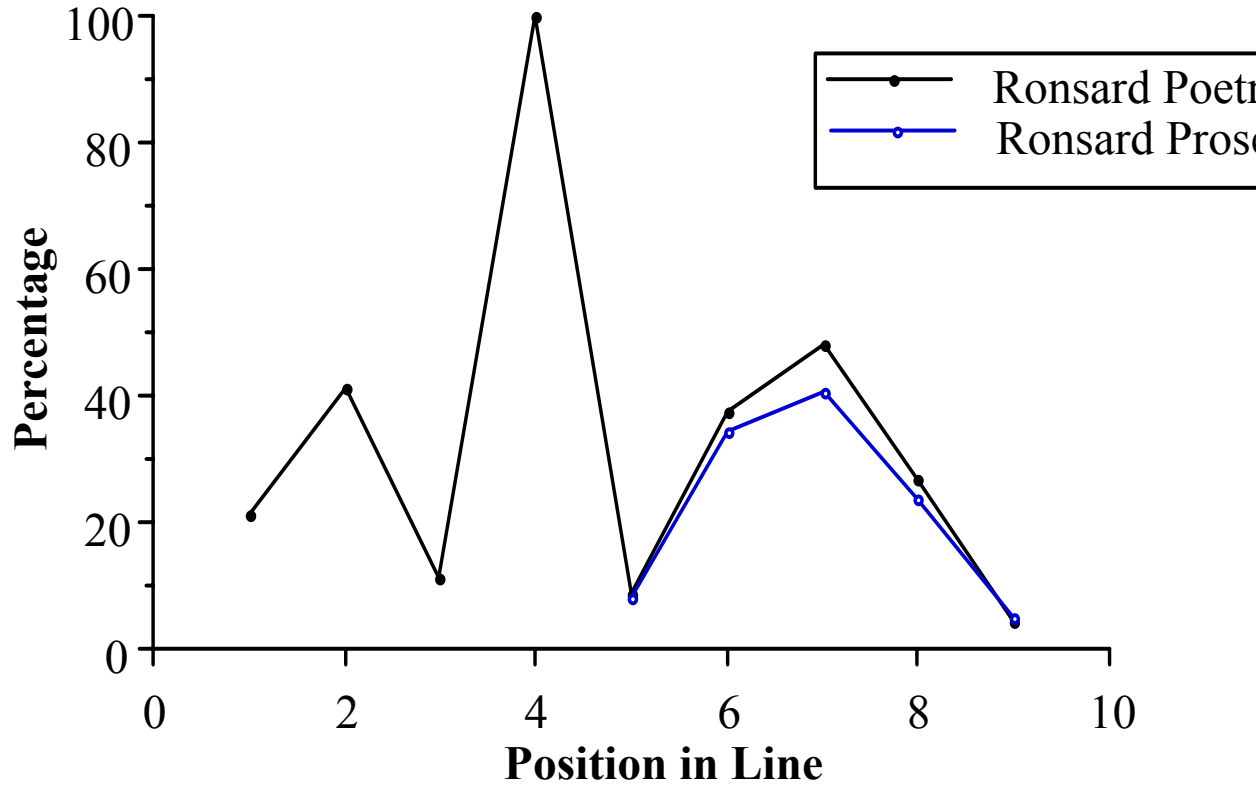
3.2 **Ronsard**

Ronsard wrote Les Amours about fifteen years after Scève's Délie was published. It is clear from looking at Ronsard's stress and break profiles that the poet had his own distinct interpretation of how the line was to be rendered.

3.2.1 **Stress Profiles: Ronsard vs. Own Prose Model**

When compared against Scève, the most immediately striking result is how much more Ronsard placed stress in the seventh position of the line in his poetry:

Ronsard Stress Profile: Poetry vs. Own Prose Model



Graph 3: Ronsard Poetry vs. Ronsard Prose: placement of stress in second hemistich of the line.

Stress in Position	Ronsard Poetry (1022 lines)	Ronsard Prose (493 lines)	chi-square
5	89	41	.7985 poetry
6	381	168	.2243 poetry
7	493	199	.0039 poetry
8	277	118	.1881 poetry
9	44	26	.4001 prose

Table 12: Ronsard Poetry vs. Ronsard Prose: frequency of stress in

position of line and chi-square significance for frequencies observed.

Stress placement is only marked for Ronsard in the seventh position. Though not significantly, stress placement favors poetry in all other positions of the line except for the ninth which insignificantly favors prose. That the ninth position is not significant for prose contradicts the traditionally held view held by Grammont (1937) and others that poetry disfavors stress in positions immediately preceding required stresses. These results suggest that avoidance of stress in the ninth position is as much at play in prose as in poetry and is therefore not a metrical effect.

Although Ronsard's stress profile appears strongly anapestic, looking at the stress patterns of the line, the iambic pattern which emerged for Scève again comes to light:

Patterns Significant for Poetry:			
Pattern	Ronsard Poetry (1022 lines)	Ronsard Prose (493 lines)	chi-square
101001	45	8	.0058
010101	100	30	.0160
Significant for Prose			
Pattern	Ronsard Poetry (1022 lines)	Ronsard Prose (493 lines)	chi-square
000001	19	60	<.0001

Table 13: Ronsard Poetry vs. Ronsard Prose: second hemistich stress patterns testing at a significant level for poetry or for prose and the frequency each pattern was attested.

As with Scève, the inverted iambic pattern tests significantly for poetry, while the one-stress hemistich tests significantly for prose. Ronsard tests, however, significantly for the iambic pattern as well against his own prose -- something which Scève did not do.

The following patterns did not test at better than a 5% significance level. Notice in the following table that the anapestic pattern, while favoring poetry strongly, tests narrowly above a 5% level of significance. This result is something of a surprise considering the strong anapestic tendencies suggested by the stress profile:

Favored, but not Statistically Significant for Poetry			
Pattern	Ronsard Poetry (1022 lines)	Ronsard Prose (493 lines)	chi-square
001001	367	152	.0510
011001	50	15	.0960
000101	135	54	.2131
010011	14	6	.8071
Favored, but not Statistically Significant for Prose			
Pattern	Ronsard Poetry (1022 lines)	Ronsard Prose (493 lines)	chi-square
001101	12	9	.3096
100101	19	13	.3239
010001	210	112	.3334
100001	11	7	.5631
001011	9	5	.7991
000011	14	7	.9378

Table 14: Ronsard Poetry vs. Ronsard Prose: second hemistich stress patterns

not testing at a significant level for poetry or for prose and the frequency each pattern was attested.

In comparison to Scève, the results from this table suggest that Ronsard placed stress later in the line. Notice that while the numbers do not test at a significant level in this table, the stress pattern with stress in six and ten (010001) favors prose while the stress pattern with stress in eight and ten (000101) favors poetry, the opposite of Scève's favoring. This movement of stress placement later in the hemistich may reflect a diachronic evolution of the Classic French decasyllable similar to the evolution in stress placement noted by Gasparov in Italian.

The following patterns were insufficiently attested to achieve an accurate chi-square result:

Insufficient Data			
Pattern	Ronsard Poetry (1022 lines)	Ronsard Prose (493 lines)	chi-square
101101	4	5	.1394 prose
111011	0	1	.1498 prose
110111	0	1	.1498 prose
011011	0	1	.1498 prose
101111	0	1	.1498 prose
110001	3	0	.2285 poetry
100011	2	2	.4555 prose
110101	1	0	.4872 poetry
111101	1	1	.5980 prose
011101	1	1	.5980 prose
000111	4	2	.9669 prose
011111	0	0	n/a
111111	0	0	n/a
100111	0	0	n/a
001111	0	0	n/a
111001	0	0	n/a

110011	0	0	n/a
101011	0	0	n/a
010111	0	0	n/a

Table 15: Ronsard Poetry vs. Ronsard Prose: second hemistich stress patterns not attested at a sufficient level to achieve an accurate chi-square result.

3.2.2 Break Profiles: Ronsard Poetry vs. His Own Prose

The following table gives the results for the difference in break levels between Ronsard's Amours and his prose in each position of the second hemistich of the line:

Ronsard Poetry vs. Ronsard Prose					
	Position in Decasyllabic Line				
Break Level	5	6	7	8	9
Within word	.0107 prose	.8373 prose	.9979 prose	.0005 prose	.0005 prose
Within Clitic Group	.0804 poetry	.5186 prose	.0050 prose	.0219 poetry	<.0001 poetry
Cohesion Index	.0654 prose	.3105 prose	.0207 prose	.2238 prose	.0240 poetry
Within Phonological Phrase	.0022 poetry	.0284 poetry	.0374 poetry	.7002 poetry	.3275 poetry
Full Break	.9536 poetry	.7398 prose	.2010 poetry	.0064 poetry	.0484 prose

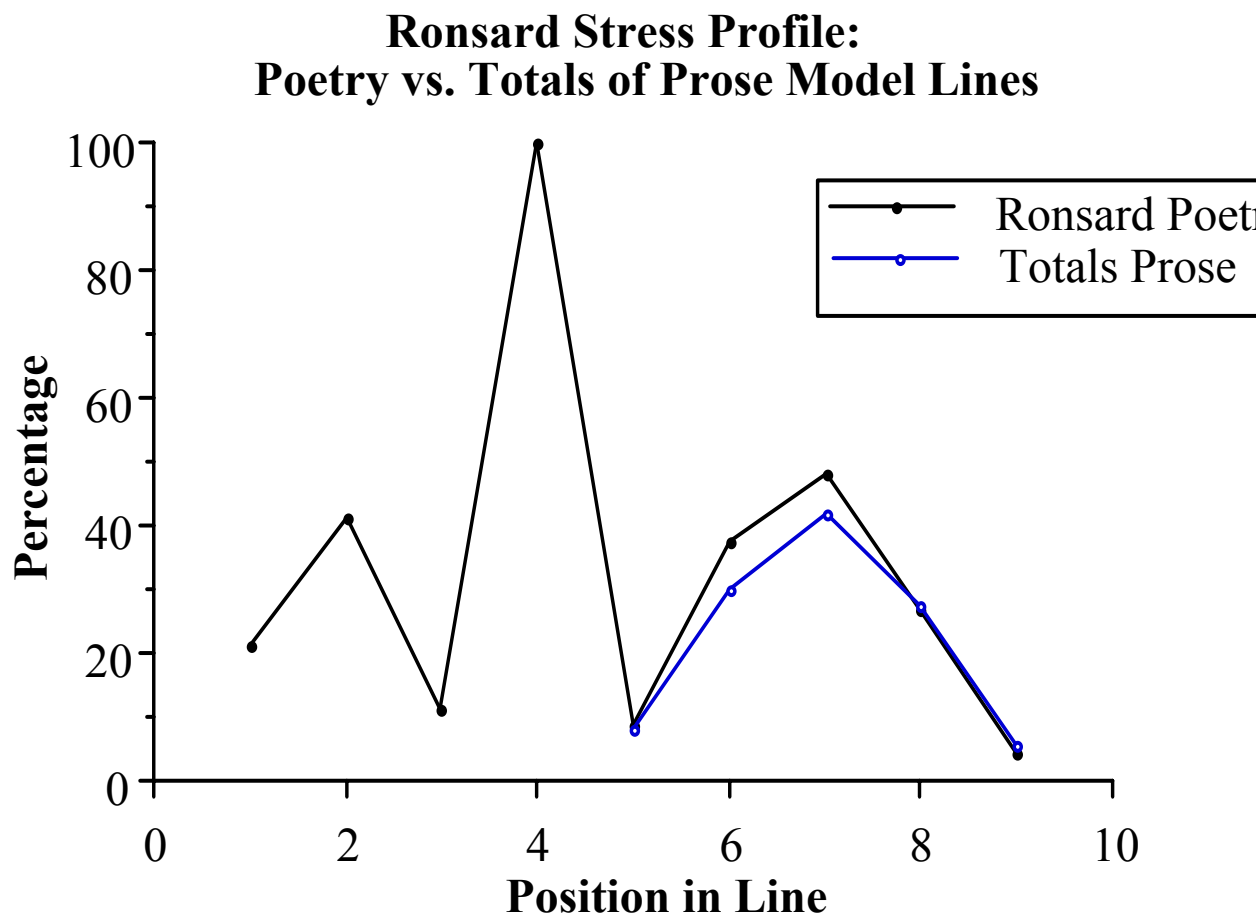
Disjuncture Index	.0206 poetry	.1221 poetry	.0048 poetry	.0391 poetry	.7985 poetry
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Table 16: Ronsard Poetry vs. Ronsard Prose: chi-square results in each position of the second hemistich for the four different levels of syntactic break studied in this analysis; frequencies for the above can be found in Appendix A.

Unlike Scève, Ronsard shows no tendency towards cohesion at the within-word level in his poetry. The results here suggest that Ronsard preferred in general to fill adjacent positions in the second hemistich with distinct words, avoiding longer words if possible. Ronsard shows cohesion between the fifth and sixth, eighth and ninth and ninth and tenth positions of the line, but at the clitic level rather than at the within-word level. Ronsard also avoids a clitic or within-word level break after the seventh position of the line in his poetry, a pattern which might be a consequence of the high frequency of stress in the seventh position. It is noteworthy that Ronsard's cohesion index, like Scève's, is significant for poetry after the ninth position. This suggests that there is some level of cohesion that is at play in the final two positions of the hemistich. This tendency at play in the final two positions of the line may suggest a word-bracketing matching to an underlying iambic metrical bracketing. If this is the case, that this metrical bracketing is echoed particularly strongly by the word bracketing of the final foot would be consistent with the metrical tendency observed across other metrical traditions where a pattern is loosely observed line or hemistich initially and more strictly at the end.

3.2.3 Stress Profiles: Ronsard Poetry vs. Totals of Prose Model Lines

Looking at Ronsard's poetry against the prose totals for all authors, a more iambic line comes into focus. Notice in the following graph that there is less divergence of stress in the seventh position between the prose and poetry models:



Graph 4: Ronsard Poetry vs. Prose Model Totals: placement of stress

in second hemistich of the line.

Stress in Position	Ronsard Poetry (1022 lines)	Totals Prose (2373 lines)	chi-square
5	89	190	.4947 poetry
6	381	708	<.0001 poetry
7	493	1000	.0010 poetry
8	277	650	.8629 prose
9	44	135	.0980 prose

Table 17: Ronsard Poetry vs. Prose Model Totals: frequency of stress in position of line and chi-square significance for frequencies observed.

While stress in the seventh position tests more conclusively for poetry, stress in the sixth position significantly changes, going from insignificant for poetry to more markedly significant for poetry than the seventh position. Stress in the eighth and ninth position favor prose for Ronsard, but not at significant levels.

Looking at the possible stress patterns of the line, many patterns that emerge at a significant level are similar to those that tested at a significant level when Ronsard's poetry was compared to his own prose model lines:

Patterns Significant for Poetry			
Pattern	Ronsard Poetry (1022 lines)	Totals Prose (2373 lines)	chi-square
101001	45	46	<.0001
010101	100	144	.0001
001001	367	738	.0061

Patterns Significant for Prose			
Pattern	Ronsard Poetry (1022 lines)	Totals Prose (2373 lines)	chi-square
000001	19	259	<.0001
001101	12	61	.0101
100001	11	53	.0230

Table 18: Ronsard Poetry vs. Prose Model Totals: second hemistich stress patterns testing at a significant level for poetry or for prose and the frequency each pattern was attested.

Again the iambic and inverted iambic patterns test most significantly for poetry, followed closely by the anapestic pattern.

Testing significantly for prose is again the stress pattern with stress only in the tenth position. That the stress pattern 100001 also tests significantly for prose may be due to an effort to avoid large gaps between stresses in poetry. The pattern 001101 is a bit of a surprise. The adjacent stresses in the pattern may owe their significance to their potential status as a subset of the 000101 pattern. Looking at the lines having this pattern in the second hemistich, the adjacent stresses do in general function as the adjacent stresses did in the 110001 pattern with Scève in that with most of them, the first adjacent stress can be subordinated to the second because both stresses belong to the same phonological group. The following representative examples show this:

(21)

			(0	0	1	1	0	1)
1	2	3	4	5	6	7	8	9	10 (11)
			,			,		,	

Si le souci ne jaunist plus ma face
(Les Amours, XXIX, 5)

(22)

 (0 0 1 1 0 1)
1 2 3 4 5 6 7 8 9 10 (11)
 , , , ,

Or son oracle et ses beaulx vers encore
(Les Amours, XXXII, 8)

(23)

 (0 0 1 1 0 1)
1 2 3 4 5 6 7 8 9 10 (11)
 , , , ,

Pour l'embonpoint de ce trop chaste sein
(Les Amours, XLVI, 6)

There are some lines where this subordination of stress is less obvious, however,
as in the following:

(24)

 (0 0 1 1 0 1)
1 2 3 4 5 6 7 8 9 10
 , , , ,

Ma main ne scait cultiver aultre nom
(Les Amours, XXV, 12)

(25)

 (0 0 1 1 0 1)
1 2 3 4 5 6 7 8 9 10
 , , , ,

Telle douceur de sa voix coulle a bas
(Les Amours, XXXVIII, 9)

I would contend, however, that the numerous examples of subordinated stress are what cause the pattern to test at a significant level. The 001101 pattern is largely therefore a subset of the 000101 pattern, a more commonly attested pattern which also strongly favors prose, though not at a significant level here.

The following patterns tested at below a 5% significant level:

Patterns Favored, but not Statistically Significant for Poetry			
Pattern	Ronsard Poetry (1022 lines)	Totals Prose (2373 lines)	chi-square
011001	50	83	.0547
010001	210	422	.0577
010011	14	29	.7239
000011	14	32	.9606
Patterns Favored, but not Statistically Significantly for Prose			
Pattern	Ronsard Poetry (1022 lines)	Totals Prose (2373 lines)	chi-square
001011	9	38	.0992
000101	135	356	.1731
000111	4	15	.3884
110001	3	10	.5800
100101	19	46	.8775
101101	4	10	.9004

Table 19: Ronsard Poetry vs. Prose Model Totals: second hemistich stress patterns not testing at a significant level for poetry or for prose and the frequency each pattern was attested.

While the above numbers do not test significantly, the patterns 011001 and 010001 almost test significantly for poetry. As a group the results put stress

earlier in the line for poetry, particularly in comparison to the patterns 001011 and 000101, which lean the most strongly for prose here.

The following patterns were not sufficiently attested to achieve an accurate chi-square result:

Insufficient Data			
Pattern	Ronsard Poetry (1022 lines)	Totals Prose (2373 lines)	chi-square
011011	0	5	.1420 prose
101011	0	3	.2555 prose
011101	1	7	.2772 prose
111001	0	2	.3532 prose
100111	0	2	.3532 prose
010111	0	2	.3582 poetry
101111	0	1	.5116 prose
111011	0	1	.5116 prose
001111	0	1	.5116 prose
110111	0	1	.5116 prose
110101	1	1	.5395 poetry
111101	1	1	.5395 poetry
100011	2	5	.9295 prose
111111	0	0	n/a
011111	0	0	n/a
110011	0	0	n/a

Table 20:Ronsard Poetry vs. Prose Model Totals: second hemistich stress patterns not attested at a sufficient level to achieve an accurate chi-square result.

3.2.4 Break Profiles: Ronsard Poetry vs. Prose Model Totals

Compared against the prose model totals, Ronsard's placement of breaks in his poetry shows a significant preference for a higher level break in the first three positions of the line:

Ronsard Poetry vs. Totals Prose					
Break Level	5	6	7	8	9
Within word	.8987 poetry	.0262 prose	.0025 prose	.0001 prose	.0006 prose
Within Clitic Group	.4417 prose	.5106 prose	.0260 prose	<.0001 poetry	<.0001 poetry
Cohesion Index	.0949 prose	.0003 prose	<.0001 prose	.9729 poetry	.5647 poetry
Within Phonological Phrase	.0275 poetry	<.0001 poetry	.0038 poetry	.0603 prose	.3759 poetry
Full Break	.1403 poetry	.1478 poetry	.0006 poetry	.0002 poetry	.6735 prose
Disjuncture Index	.0078 poetry	<.0001 poetry	<.0001 poetry	.6432 poetry	.4684 poetry

Table 21: Ronsard Poetry vs. Prose Model Totals: chi-square results in

each position of the second hemistich for the four different levels of syntactic break studied in this analysis; frequencies for the above can be found in Appendix B.

Notice that the significant dispreference for a word-unit covering the fifth and sixth positions that resulted when comparing his poetry to his own prose is no longer significant here. On the other hand, word-units covering the sixth and seventh positions and seventh and eighth positions, not significantly dispreferred before, are now significantly dispreferred in poetry. The cohesion index after the ninth position, which was significant for poetry in the first analysis, leans towards poetry but no longer at a significant level.

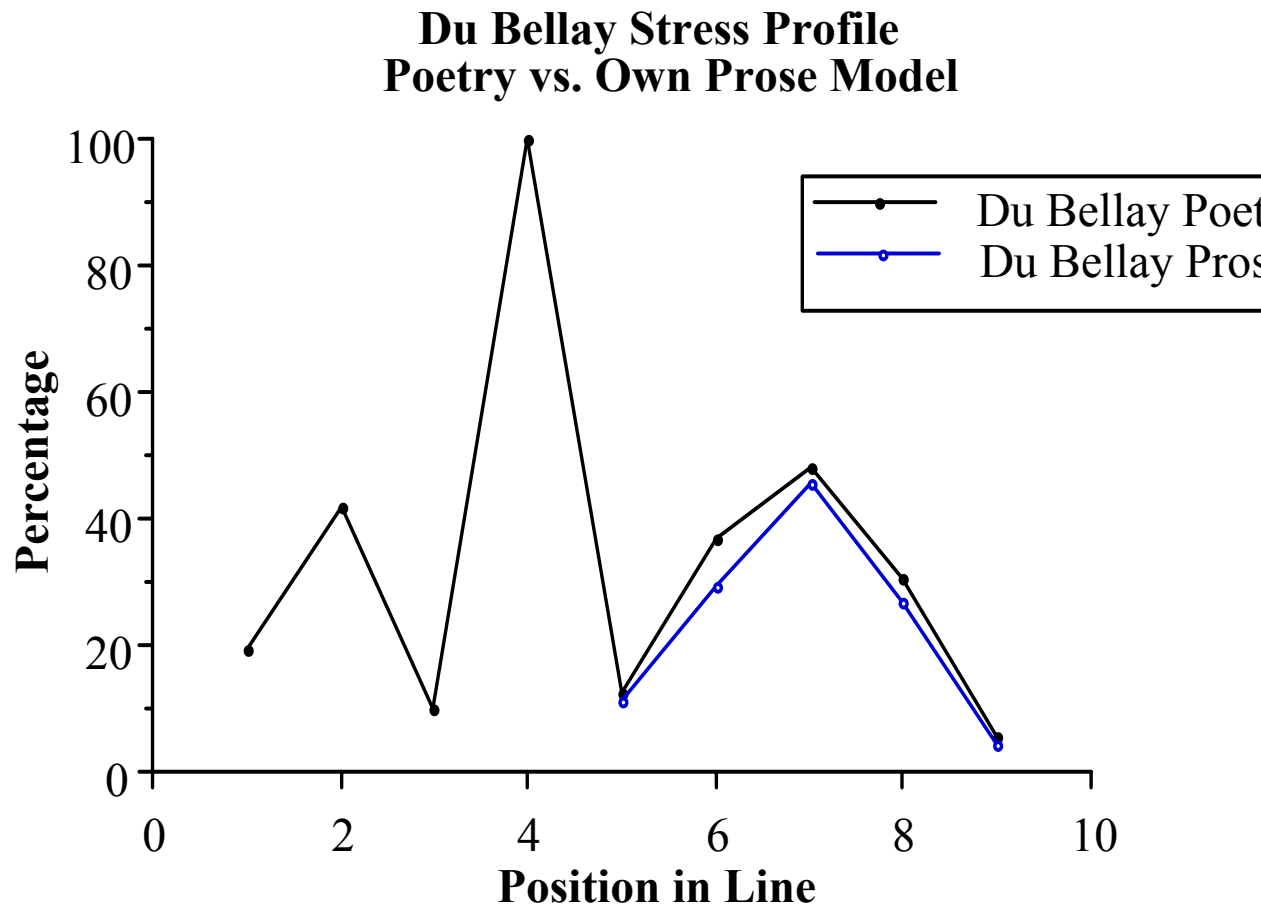
At the phonological phrase level, most things remain the same as they did relative to Ronsard's own prose model lines, but at the full break level there is a dramatic shift to significance for poetry after the seventh position of the line and to insignificance after the ninth position of the line. The disjuncture index favors poetry after every position, and significantly after the fifth, sixth and seventh positions.

3.3 Du Bellay

Du Bellay's poetry proves one of the least revealing when matched up against his own prose because there is little prose to compare his poetry against. Indeed, the lack of significant results here may largely be due to the smallness of the prose model sample.

3.3.1 Stress Profiles: Du Bellay Poetry vs. His Own Prose

As is suggested by the graph of his stress profile, the only position that tests at a significant level for poetry is the sixth; the eighth position seems to offer a slight favoritism towards prose, but all other numbers suggest more or less that chance is at play in stress placement in the line:



Graph 5: Du Bellay Poetry vs. Du Bellay Prose: placement of stress in second hemistich of the line.

Stress in Position	Du Bellay Poetry (1007 lines)	Du Bellay Prose (382 lines)	chi-square
5	127	44	.5797 poetry
6	373	113	.0092 poetry
7	484	174	.4021 poetry
8	310	102	.1369 poetry
9	59	17	.3026 poetry

Table 22: Du Bellay Poetry vs. Du Bellay Prose: Frequency of stress in position of line and chi-square significance for frequencies observed.

The sixth position of the line's significance for poetry here parallels the results of the stress profile comparisons of Scève's and Ronsard's poetry when matched against the prose model totals.

Comparing Du Bellay's stress patterns in poetry with his prose model does not produce many significant results. The following stress patterns tested at a significant level:

Patterns Significant Patterns for Poetry:			
None			
Patterns Significant Patterns for Prose			
Stress Pattern	Du Bellay Poetry (1007 lines)	Du Bellay Prose (382 lines)	chi-square
000001	24	34	<.0001
100001	12	11	.0277

Table 23: Du Bellay Poetry vs. Du Bellay Prose: second hemistich stress patterns testing at a significant level for poetry or for prose and the frequency each pattern was attested.

As mentioned above, that no stress pattern tests at a significant level for poetry is due most likely to the size of Du Bellay's prose model sample. On the other hand, the 000001 pattern favors prose at a significant level, something which also occurred in Scève and Ronsard's stress pattern profiles. Also, as with Ronsard, Du Bellay avoids the stress pattern 100001 significantly in poetry. This again may be due to the poet's dispreferring an excessive sequence of stressless syllables in the line.

The following patterns did not test at a conclusive level of significance:

Favoring, but not Significant Patterns for Poetry			
Stress Pattern	Du Bellay Poetry (1007 lines)	Du Bellay Prose (382 lines)	chi-square
010011	19	2	.0630 poetry
101001	50	11	.0903 poetry
010101	95	26	.1210 poetry
011001	52	15	.3366 poetry
001101	25	8	.6713 poetry
010001	182	67	.8167 poetry
Not Significant Patterns for Prose			
Stress Pattern	Du Bellay Poetry (1007 lines)	Du Bellay Prose (382 lines)	chi-square
001001	323	126	.7464 prose
001011	16	7	.7507 prose
100101	35	14	.8644 prose
000101	128	49	.9538 prose

Table 24: Du Bellay Poetry vs. Du Bellay Prose: second hemistich stress patterns not testing at a significant level for poetry or for prose and the

frequency each pattern was attested.

Notice that the 010011 pattern tested at close to a significant level. Studying the individual lines of poetry and prose exhibiting this pattern, the first stress in the adjacent stresses of this pattern does again seem to be in most cases subordinated to the second stress in most of the lines of poetry exhibiting this pattern. It is reasonable then to again argue that this pattern's significance here is due at least in part to its serving as a subset of the 010001 pattern. The results which favor poetry but not significantly also include the inverted iambic pattern and the iambic pattern. It may be that with a larger prose sample these patterns will test at a significant level.

The following patterns were insufficiently attested to achieve an accurate chi-square result:

Insufficient Data			
Stress Pattern	Du Bellay Poetry (1007 lines)	Du Bellay Prose (382 lines)	chi-square
011101	7	0	.1023 poetry
001111	0	1	.1043 prose
110101	5	0	.1677 poetry
111001	4	0	.2174 poetry
100111	2	0	.3834 poetry
010111	2	0	.3834 poetry
011011	1	1	.4758 prose
000011	3	2	.5307 prose
101111	1	0	.5378 poetry
110011	1	0	.5378 poetry
111011	1	0	.5378 poetry
100011	5	1	.5514 poetry

000111	4	2	.7485 prose
100111	2	0	.8644 prose
101101	6	2	.8737 poetry
110001	6	2	.8737 poetry
011111	0	0	n/a
111111	0	0	n/a
110111	0	0	n/a
111101	0	0	n/a

Table 25: Du Bellay Poetry vs. Du Bellay Prose: second hemistich stress patterns not attested at a sufficient level to achieve an accurate chi-square result.

3.3.2 Break Profiles: Du Bellay Poetry vs His Own Prose Model

While Du Bellay's stress placement in poetry sheds little light on his poetry when compared to his own prose, his placement of certain breaks through the line is a bit more revealing:

Du Bellay Poetry vs. Du Bellay Prose					
	Position in Decasyllabic Line				
Break Level	5	6	7	8	9
Within word	.5300 prose	.0023 prose	.4523 prose	.0120 prose	.4539 poetry
Within Clitic Group	.3620 prose	.8418 prose	.8165 prose	.4683 poetry	.1169 prose
Cohesion Index	.0028 prose	.0001 prose	.3489 prose	.0648 prose	.3643 prose

Within Phonological Phrase	.0461 poetry	.0490 poetry	.0347 prose	.8504 poetry	.8028 poetry
Full Break	.0120 poetry	.0018 poetry	.0003 poetry	.0010 poetry	.0555 poetry
Disjuncture Index	.0016 poetry	.0002 poetry	.3264 poetry	.0330 poetry	.3643 poetry

Table 26: Du Bellay Poetry vs. Du Bellay Prose: chi-square results in each position of the second hemistich for the four different levels of syntactic break studied in this analysis; frequencies for the above can be found in Appendix A.

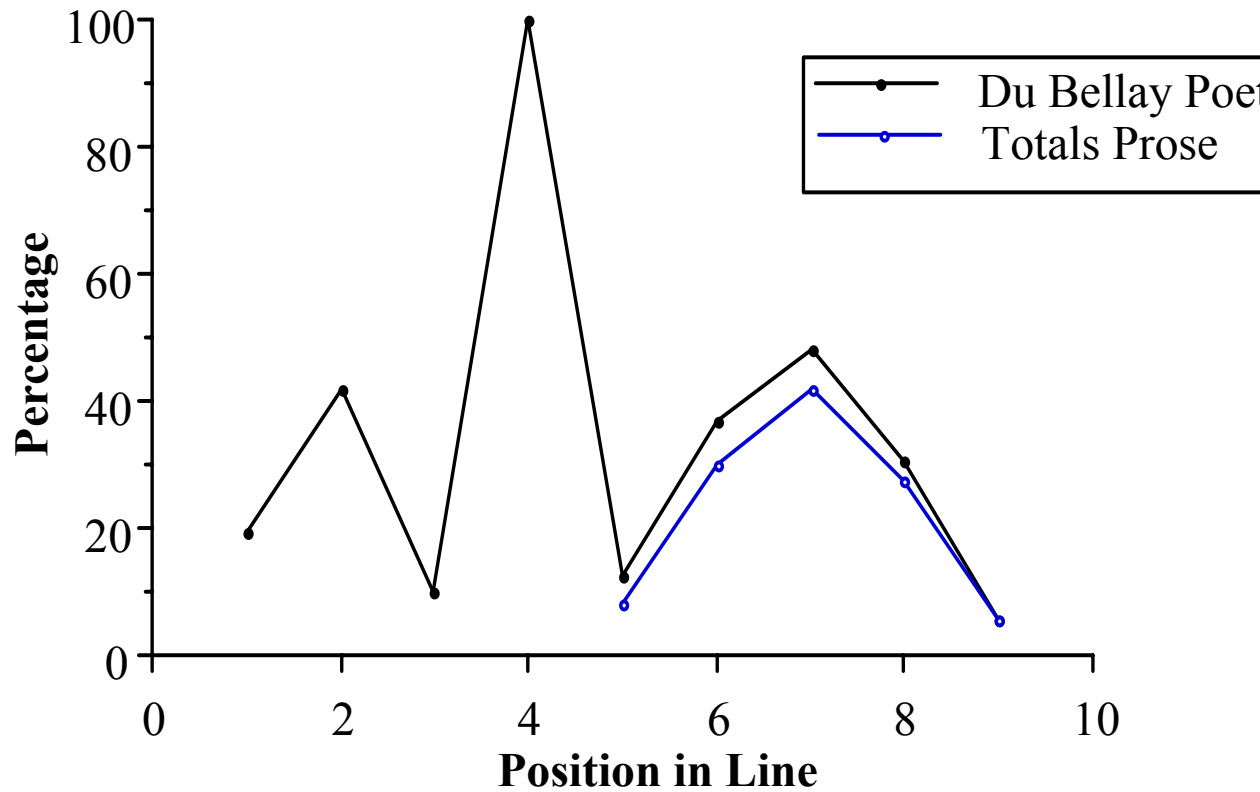
Notice that Du Bellay, like Ronsard, statistically puts higher level breaks after the fifth, sixth and eighth positions of his poetry. Notice here further that full breaks are significant for poetry at every position of the hemistich. The significance of strong word breaks after the sixth and eighth positions may suggest a word-bracketing tendency in the line echoing an underlying iambic foot pattern. That this is also the case in the fifth position may again be a poetic effect which allows for play at the beginning of the line but less so as one progresses towards the end of the line.

3.3.3 Stress Profiles: Du Bellay Poetry vs. Totals of Prose Model Lines

Due to the small data base of prose model lines, it is of particularly importance to an understanding of Du Bellay's poetry to compare his poetry with the prose model totals to get a clearer picture of his metrical style. Notice in the graph below comparing Du Bellay's poetry with the prose model totals that a

distance emerges in the seventh position of the line that was not apparent in the previous comparison:

Du Bellay Stress Profile: Poetry vs. Totals of Prose Model Lines



Graph 6: Du Bellay Poetry vs. Prose Model Totals: placement of stress in second hemistich of the line.

Stress In Position	Du Bellay Poetry (1007 lines)	Totals Prose (2373 lines)	chi-square
5	127	190	<.0001 poetry
6	373	708	<.0001 poetry

7	484	1000	.0015 poetry
8	310	650	.0454 poetry
9	59	135	.8459 poetry

Table 27: Du Bellay Poetry vs. Prose Model Totals: frequency of stress in position of line and chi-square significance for frequencies observed.

When compared against the totals, Du Bellay's poetry tests for poetry in every position except the ninth. While this does not give evidence for traces of a particular underlying pattern, it does strongly suggest that there is more at play in the line than syllable counting. Looking at the stress pattern profiles we get a clearer picture of Du Bellay's stress placement in the line:

Patterns Significant for Du Bellay Poetry			
Pattern	Du Bellay Poetry (1007 lines)	Totals Prose (2373 lines)	chi-square
101001		46	<.0001
010101	95	144	.0005
100101	35	46	.0075
011001	52	83	.0237
Patterns Significant for Totals Prose			
Pattern	Du Bellay Poetry (1007 lines)	Totals Prose (2373 lines)	chi-square
000001	24	259	.0001
000011	3	32	.0058
100001	12	53	.0437

Table 28: Du Bellay Poetry vs. Prose Model Totals: second hemistich stress patterns testing at a significant level for poetry or for prose and the frequency each pattern was attested.

Notice again that, as with Scève and Ronsard, the inverted iambic pattern and the iambic pattern test significantly for poetry. Indeed, Du Bellay proves the most iambic of all the authors in that every possible three stress iambic pattern tests at or better than a 5% level for poetry. While it might be argued that the 011001 pattern is an iambic pattern with an inverted middle foot, this is on the whole is not the case. In most of Du Bellay's lines of this style, the first adjacent stress proves for the most part to be, as with other adjacent stresses analyzed to this point, subordinated to the second adjacent stress. The difference here is that if it is then considered a subset of the anapestic 001001 pattern, why then does the anapestic pattern not test here anywhere near to significantly for poetry. I will discuss why I think this occurs in more detail in chapter four, but for now suffice it to say that the second hemistich seems to need some level of stress by the sixth position of the line (second position of the hemistich), and so two stressless syllables beginning the second hemistich tends to be avoided by the poet.

The patterns testing significantly for prose are for the most part familiar: the 000001 pattern again tests for prose as does the 100001 pattern. The 000011 pattern proves, as has often been the case with patterns with adjacent stresses, to be a subset of the 000001 pattern.

The following patterns favored prose or poetry but failed to test at a significant level:

Favored, but not Statistically Significant for Poetry			
Pattern	Du Bellay Poetry (1007 lines)	Totals Prose (2373 lines)	chi-square
011101	7	7	.0976
010011	19	29	.1352
101101	6	10	.4993
110001	6	10	.4993
001001	323	738	.5762
010001	210	422	.8404
Favored, but not Statistically Significant for Prose			
Pattern	Du Bellay Poetry (1007 lines)	Totals Prose (2373 lines)	chi-square
000101	135	356	.0820
000111	4	15	.4035
001101	12	61	.8819
001011	9	38	.9789

Table 29: Du Bellay Poetry vs. Prose Model Totals: second hemistich stress patterns not testing at a significant level for poetry or for prose and the frequency each pattern was attested.

Of all these patterns, the 000101 pattern is closest to testing significantly, testing for prose. Its closeness to testing significantly for prose should not be surprising since Scève tested similarly against his own prose. It follows furthermore a recurring general pattern in these results of dispreferring placement of stress after the seventh position of the line.

The following patterns were insufficiently attested to achieve an accurate chi-square result:

Insufficient Data			
Pattern	Du Bellay Poetry (1007 lines)	Totals Prose (2373 lines)	chi-square
110101	5	1	.0041 poetry
111001	4	2	.0481 poetry
110011	1	0	.1247 poetry
100011	5	5	.1617 poetry
010111	2	2	.3766 poetry
100111	2	2	.3766 poetry
101111	1	1	.5320 poetry
111011	1	1	.5320 poetry
011011	0	5	.4817 prose
110111	0	1	.5147 prose
001111	0	1	.5147 prose
111101	0	1	.5147 prose
101011	2	3	.6175 poetry
011111	0	0	n/a
111111	0	0	n/a

Table 30: Du Bellay Poetry vs. Prose Model Totals: second hemistich stress patterns not attested at a sufficient level to achieve an accurate chi-square result.

3.3.4 **Break Profiles: Du Bellay Poetry vs. Prose Model Totals**

In Du Bellay's break profiles there is further evidence that the poet is doing more than syllable counting:

Du Bellay Poetry vs. Totals Prose					
	Position in Decasyllabic Line				
Break Level	5	6	7	8	9

Within word	.9848 prose	<.0001 prose	.0820 prose	.0282 prose	.7577 prose
Within Clitic Group	.0183 prose	.6020 prose	.1160 prose	.8597 prose	.0859 prose
Cohesion Index	<.0001 prose	<.0001 prose	.0019 prose	.0156 prose	.0032 prose
Within Phonological Phrase	<.0001 poetry	<.0001d poetry	.8347 prose	.8219 poetry	.0394 poetry
Full Break	.0004 poetry	<.0001 poetry	<.0001 poetry	.0011 poetry	.0338 poetry
Disjuncture Index	<.0001 poetry	<.0001 poetry	.0033 poetry	.0378 poetry	.0073 poetry

Table 31: Du Bellay Poetry vs. Prose Model Totals: chi-square results in each position of the second hemistich for the four different levels of syntactic break studied in this analysis; frequencies for the above can be found in Appendix B.

Du Bellay shows a strong dispreference for a word-unit occupying the sixth and seventh positions of the line. This matches Scève's and Ronsard's results at this break level and may suggest a dispreference to cross iambic foot boundaries with word-units. The dispreference for a word to occupy the eighth and ninth positions shown here was also the case in Ronsard's break profiles at this break level. These dispreferences suggest the possibility of a surface echoing of an underlying iambic pattern. Clitic level breaks are dispreferred significantly in Du Bellay's poetry after the fifth position.

At the phonological phrase level, Du Bellay shows a significant preference in his poetry for this level of break after the fifth, sixth and ninth positions. Why this is so is not entirely clear, but it might be conjectured at a less scientific level that it is caused by the poet's attempts to color the entire line, thus avoiding function words in the early part of his verse, attempts which are then reflected in comparisons with prose model lines. Du Bellay shows a significant preference in his poetry for full breaks at every position of the line, and his disjuncture index measures significantly for poetry at every position of the line as well. As with his stress profile, this abundance of significant results does not shed light on an underlying pattern, but they do indicate again that for the poet the realization of the line involved more than syllable counting.

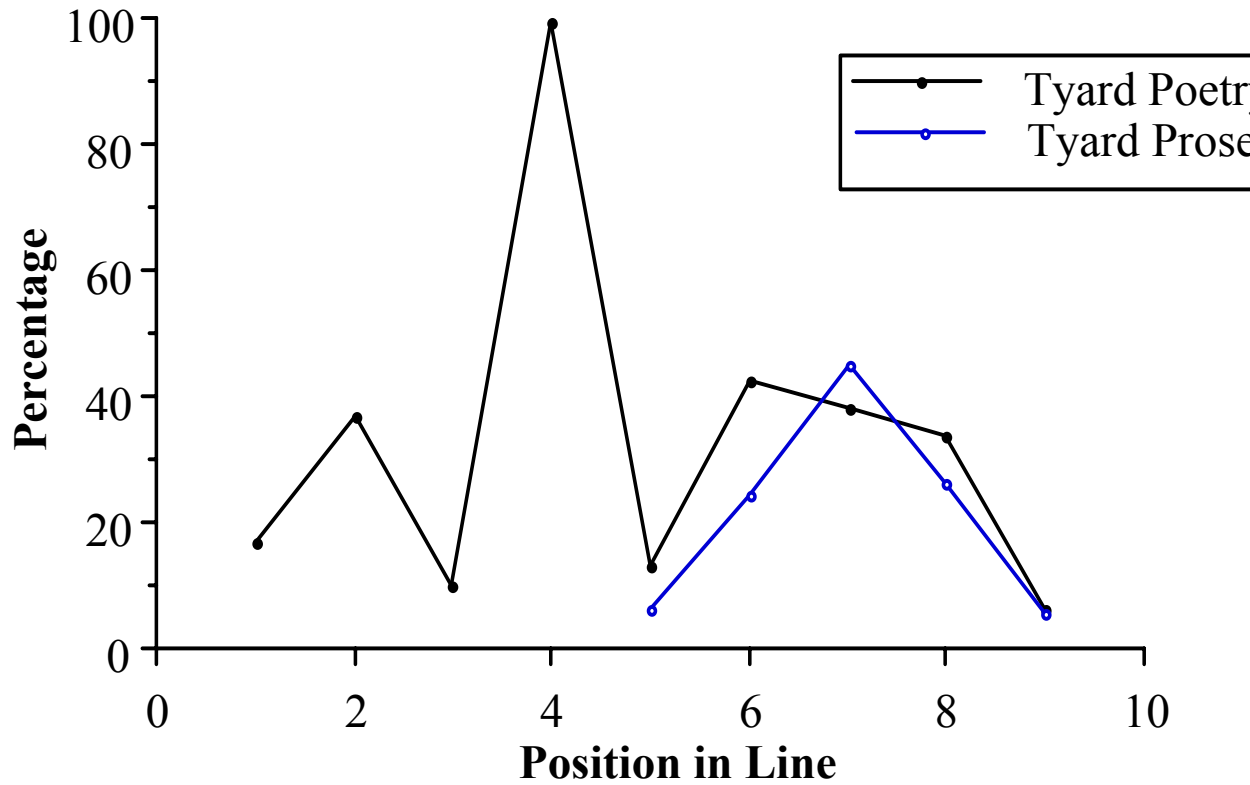
3.4 Tyard

Tyard has the most marked difference between his poetry and prose when looking at his stress profile.

3.4.1 Stress Profiles: Tyard Poetry vs. His Own Prose

Notice in the following graph how much less stress Tyard puts in the seventh position in comparison to his prose, and, unlike the other poets, how much more stress he puts in the eighth position of the line:

Tyard Stress Profile: Poetry vs. Own Prose Model



Graph 7: Tyard Poetry vs. Tyard Prose: placement of stress in second hemistich of the line.

Stress in Position	Tyard Poetry (1020 lines)	Tyard Prose (509)	chi-square
5	133	33	<.0001 poetry
6	431	124	<.0001 poetry
7	390	230	.0091 prose
8	344	133	.0025 poetry
9	64	30	.7703 poetry

Table 32: Tyard Poetry vs. Tyard Prose: frequency of stress in position of line and chi-square significance for frequencies observed.

The high significance levels in certain positions for poetry and in others for prose indicate that Tyard had the most clearly marked stress preference of all of the poets. The high significance levels for stress in the sixth and eighth positions, coupled with the strong dispreference for stress placement in the seventh position in his poetry reflect this. The high placement of stress in the fifth position in his poetry may be seen as further evidence of his understanding of the Classic French Decasyllable as iambic. Tyard's placement of stress in the fifth position resembles Scève's stress placement in poetry when matched against his own prose and against the prose model totals. As noted for Scève, this is consistent with the correspondence rule for English iambic pentameter already noted in 3.1.1 of stress being placed with relative frequency in weak position if that weak position comes after a break. For convenience, I cite here again the Table from 3.1.1 comparing Shakespeare's pentameter to prose of the period:

Stress in Position	Shakespeare Sonnets (2156 lines)	Swift Prose Model (625 lines)	chi-square
1	500	82	<.0001 poetry
2	1436	400	.2261 poetry
3	241	112	<.0001 prose
4	1921	384	<.0001 poetry
5	224	82	.0548 prose
6	1542	336	<.0001 poetry
7	198	122	<.0001 prose
8	1630	337	<.0001 poetry

9	185	56	.7666 prose
10	2033	502	<.0001 poetry

Table 33: Shakespeare's Sonnets (2156 lines) vs. Swift's Prose (625 lines): chi-square results and frequencies at each position of the line.

Looking at Shakespeare's stress profile here, Tyard echoes this iambic pattern more than any of the other French poets analyzed in this study, even more than Scève, the person to whom Tyard dedicated the work analyzed here to. The relatively high frequency of stress in the fifth position may furthermore be due to his desire to emulate Scève. For Scève is the only other poet in this study with such a marked preference for stress in the fifth position.

As further support for Tyard's iambic tendencies, note the number of iambic patterns below testing significantly for poetry:

Stress Patterns Significant for Poetry			
Stress Pattern	Tyard Poetry (1020 lines)	Tyard Prose (509)	chi-square
010101	125	21	<.0001
101001	47	8	.0027
100101	26	2	.0030
010001	200	73	.0113
010011	26	5	.0405
Stress Patterns Significant for Prose			
001001	244	173	<.0001
000001	41	59	<.0001

Table 34: Tyard Poetry vs. Tyard Prose: second hemistich stress patterns testing at a significant level for poetry or for prose and the frequency each pattern was attested.

Every pattern testing significantly for poetry is iambically based: the first pattern is the straight iamb (010101); the second is an inverted iambic pattern (101001); the third is a first foot inverted iambic pattern (100101); and the fourth omits the fourth position stress (010001). The fifth pattern proves again to be a subset of the fourth pattern, as the first of the adjacent stresses is in most cases subordinated to the second. Notice also that the iambic patterns which omit stress do so in the middle foot; no pattern testing significantly for poetry has its first stress after the sixth position. This further supports a tendency viewed across all the poets of placing a stress somewhere within the first two to three positions of the second hemistich.

For prose, the anapestic pattern tests significantly, suggesting further that the anapestic line is not only not representative of the tonic intention of the poet but is avoided in comparison to prose. As with the other poets in this analysis, the one stress pattern (000001) tests significantly for prose.

The following patterns favored poetry or prose, but not at a significant level:

Stress Patterns Favoring, but not Significant for Poetry			
110001	13	3	.2147
011001	46	20	.5986
Stress Patterns Favoring, but not Significant for Prose			
000101	144	85	.1825
001101	26	17	.3780
001011	14	10	.3801
100001	25	16	.4296
000011	10	7	.4877

Table 35: Tyard Poetry vs. Tyard Prose: second hemistich stress patterns not testing at a significant level for poetry or for prose and the frequency each pattern was attested.

With a few exceptions, the very general trend among these data is that stress earlier in the line favors poetry and later in the line favors prose. The stress pattern 100001 again favors prose albeit very slightly.

The following patterns were insufficiently attested to achieve accurate chi-square results:

Insufficient Data			
110101	10	0	.0250 poetry
100111	0	1	.1568 prose
000111	3	4	.1795 prose
011011	3	0	.2207 poetry
101011	2	0	.3175 poetry
111001	1	0	.4798 poetry
011101	4	1	.5276 poetry
010111	1	1	.6158 prose
101101	3	1	.7246 poetry
100011	5	2	.7906 poetry
001111	0	0	n/a
011111	0	0	n/a
110011	0	0	n/a
111011	0	0	n/a
110111	0	0	n/a
111101	0	0	n/a
111111	0	0	n/a
101111	0	0	n/a

Table 36: Tyard Poetry vs. Tyard Prose: second hemistich stress patterns not

attested at a sufficient level to achieve an accurate chi-square result.

3.4.2 Break Profiles: Tyard Poetry vs. Tyard Prose

Looking at the Break Levels, there is in general a strong tendency for a higher level word break early on in the second hemistich of the line, i.e., the fifth or sixth position, or very late in the line, i.e., eighth or ninth position for full breaks and ninth position for phonological breaks:

Tyard Poetry vs. Tyard Prose					
	Position in Decasyllabic Line				
Break Level	5	6	7	8	9
Within word	.1541 poetry	.0001 prose	.0013 prose	.3237 prose	.5198 poetry
Clitic Group	.0029 prose	.1137 prose	<.0001 poetry	.1885 poetry	.0021 prose
Cohesion Index	.0009 prose	<.0001 prose	.2330 poetry	.8582 poetry	.0040 prose
Within Phonological Phrase	.0014 poetry	.0402 poetry	.2744 prose	.0022 prose	.0210 poetry
Full Break	.0448 poetry	<.0001 poetry	.6879 poetry	.0002 poetry	.0120 poetry

Disjuncture Index	<.0001 poetry	<.0001 poetry	.5065 prose	.9185 prose	.0020 poetry
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Table 37: Tyard Poetry vs. Tyard Prose: chi-square results in each position of the second hemistich for the four different levels of syntactic break studied in this analysis; frequencies for the above can be found in Appendix A.

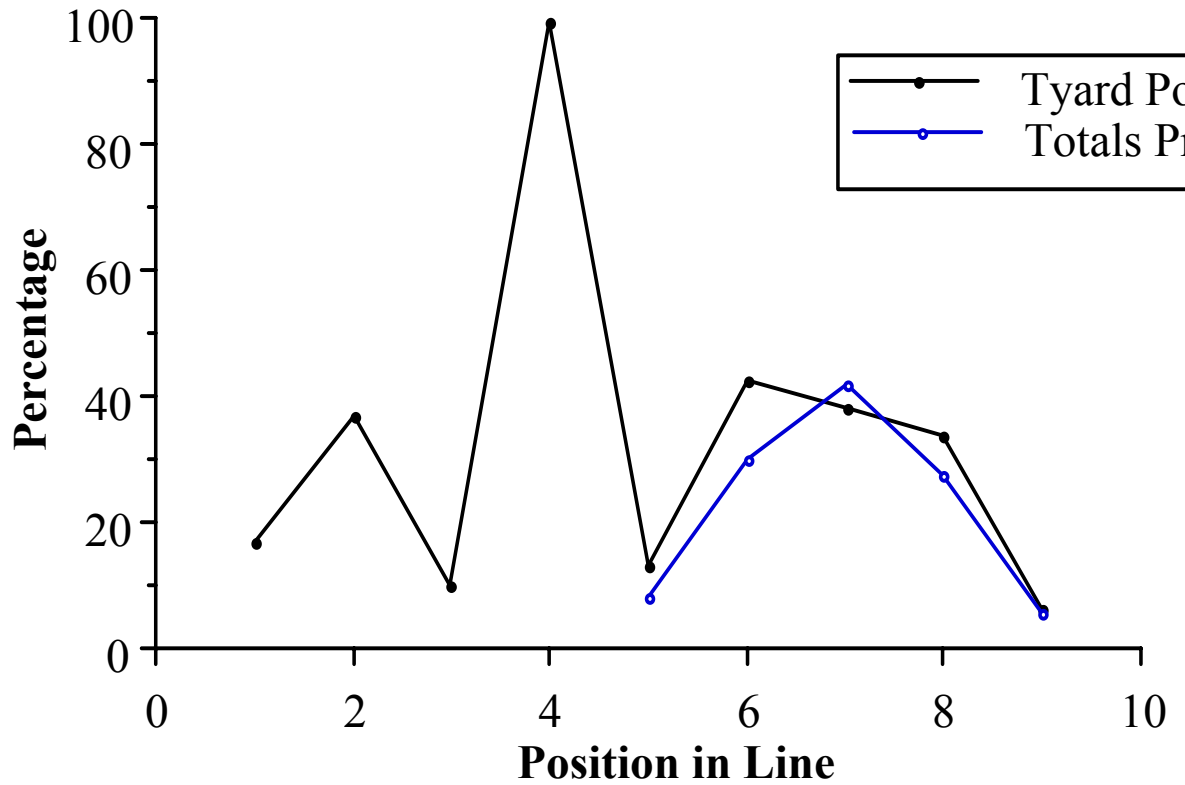
Notice the marked difference in preference in the cohesion index of break preference after the seventh position. Tyard tests significantly for prose after the seventh position at the word level break, meaning that he avoids putting a word unit in the seventh and eighth position of the line. On the other hand, he places clitic breaks significantly for poetry between these same two positions. Like Scève and Du Bellay in their comparisons against the prose model totals, Tyard tends toward a strong break after the fifth and sixth positions, but unlike them he also prefers a strong break after the ninth position.

It should be noted here as well that the numbers are smaller for the fifth position of the line -- nineteen for poetry and only three for prose. This suggests that though there is the strong suggestion of an intended metrical effect, it nonetheless occurs infrequently in poetry as well as prose.

3.4.3 Stress Profiles: Tyard Poetry vs. Totals of Prose Model Lines

Tyard's stress profiles, when matched against the prose model totals, parallel fairly evenly the results achieved when pairing him against his own prose:

Tyard Stress Profile: Poetry vs. Totals of Prose Model Lines



Graph 8: Tyard Poetry vs. Prose Model Totals: placement of stress in second hemistich of the line.

Stress in Position	Tyard Poetry (1020 lines)	Totals Prose (2373 lines)	chi-square
5	133	190	<.0001 poetry
6	431	708	.0001 poetry
7	390	1000	.0339 prose
8	344	650	.0002 poetry

9	64	135	.5057 poetry
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Table 38 : Tyard Poetry vs. Prose Model Totals: frequency of stress in position of line and chi-square significance for frequencies observed.

As when compared against his own prose, here stress is placed in the fifth, sixth and eighth positions significantly for poetry and the seventh position is significant for prose. The ninth position is the only one which does not test significantly, which again suggests that the traditional view of dispreference for stress in poetry in positions directly preceding positions of required stess is not supported by the data here.

The stress pattern profiles of Tyard's poetry when matched against the totals of the prose model lines further suggest an underlying iambic pattern:

Stress Patterns Significant for Poetry

Stress Pattern	Tyard Poetry (1020 lines)	Totals Prose (2373 lines)	chi-square
010101	125	144	<.0001
101001	47	46	<.0001
110101	10	1	<.0001
010011	26	29	.0050
110001	13	10	.0055
Stress Patterns Significant for Prose			
Stress Pattern	Tyard Poetry (1020 lines)	Totals Prose (2373 lines)	chi-square
000001	41	259	.0001
001001	244	738	.0001

Table 39: Tyard Poetry vs. Prose Model Totals: second hemistich stress patterns testing at a significant level for poetry or for prose and the frequency each pattern was attested.

Again, as with Scève, Du Bellay and Ronsard, Tyard tests significantly for the iambic pattern and the inverted iambic pattern when matched against the prose model totals. The 110101 pattern, testing beyond a .01% level proves again to be a ‘heavy’ iambic pattern as the initial adjacent stress is in most cases subordinated in his poetry to the second adjacent stress, and the 010011 is similarly heavy in the final foot and without a stress in the seventh and eighth positions (what would be the middle foot of an iambic second hemistich). As with the other poets, he also tests significantly for prose in the 000001 pattern. However, more than any other poet, Tyard shows a pronounced aversion to the anapestic pattern, testing for prose at a .01% significance level.

The following patterns favored poetry and prose but not at a significant level:

Stress Patterns Favoring, but not Significant for Poetry			
Stress Pattern	Tyard Poetry (1020 lines)	Totals Prose (2373 lines)	chi-square
011001	46	83	.1575
010001	200	422	.2079
100101	26	46	.2578
011101	4	7	.6480
Stress Patterns Favoring, but not Significant for Prose			
Stress Pattern	Tyard Poetry (1020 lines)	Totals Prose (2373 lines)	chi-square
001011	14	38	.1602
000111	3	15	.2140
000011	10	32	.3739
000101	144	356	.5051
101101	3	10	.5821
100001	25	53	.6983
001101	26	61	.9709

Table 40: Tyard Poetry vs. Prose Model Totals: second hemistich stress patterns not testing at a significant level for poetry or for prose and the frequency each pattern was attested.

A familiar tendency again emerges: patterns with at least one stress at or before the sixth position favor poetry while stress patterns at or after the seventh position of the line tend towards prose, excepting 101101 and 100001 which favor prose negligibly.

The following patterns were insufficiently attested for an accurate chi-square result:

Insufficient Data			
Stress Pattern	Tyard Poetry (1020 lines)	Totals Prose (2373 lines)	chi-square
100011	5	5	.1685 poetry
100111	0	2	.3537 prose
101111	0	1	.5120 prose
001111	0	1	.5120 prose
111101	0	1	.5120 prose
110111	0	1	.5120 prose
111011	0	1	.5120 prose
101011	2	3	.6277 poetry
011011	3	5	.6460 poetry
111001	1	2	.9016 poetry
010111	1	2	.9016 poetry
011111	0	0	n/a
110011	0	0	n/a
111111	0	0	n/a

Table 41: Tyard Poetry vs. Prose Model Totals: second hemistich stress patterns not attested at a sufficient level to achieve an accurate chi-square result.

3.4.4 Break Profiles: Tyard Poetry vs. Totals of Prose Model Lines

In terms of breaks, Tyard's poetry matches up against the prose totals relatively similarly as it did when matched against his own prose model lines:

Tyard Poetry vs. Totals Prose					
	Position in Decasyllabic Line				
Break Level	After 5	After 6	After 7	After 8	After 9
Within word	.0736 poetry	.0001 prose	.0034 prose	.3653 poetry	.0327 poetry
Clitic Group	<.0001 prose	.0004 prose	.0003 poetry	.0429 prose	<.0001 prose
Cohesion Index	<.0001 prose	<.0001 prose	.7935 poetry	.3140 prose	.0014 prose
Within Phonological Phrase	<.0001 poetry	<.0001 poetry	.7899 prose	.0002 prose	.0119 poetry
Full Break	.0561 poetry	<.0001 poetry	.7294 poetry	<.0001 poetry	.0108 poetry
Disjuncture Index	<.0001 poetry	<.0001 poetry	.9856 poetry	.4702 poetry	.0011 poetry

Table 42: Tyard Poetry vs. Prose Model Totals: chi-square results in each position of the second hemistich for the four different levels of syntactic break studied in this analysis; frequencies for the above can be found in Appendix B.

Notice the dispreference for a word-unit to occupy the sixth and seventh positions -- all poets agree in this regard when compared against the prose totals. Tyard also avoids word placement between the seventh and eighth positions and prefers them between the ninth and tenth positions of the line. Tyard avoids placing clitic breaks after the fifth position, something which Scève does at a significant level, but no other poet does when compared against the prose model totals. Indeed, Tyard follows Scève's pattern all through the line at the clitic level, proving only in the seventh position to be different in that he is significant for poetry while Scève is not, all in all a further reflection of Scève's influence on the poetry of Tyard.

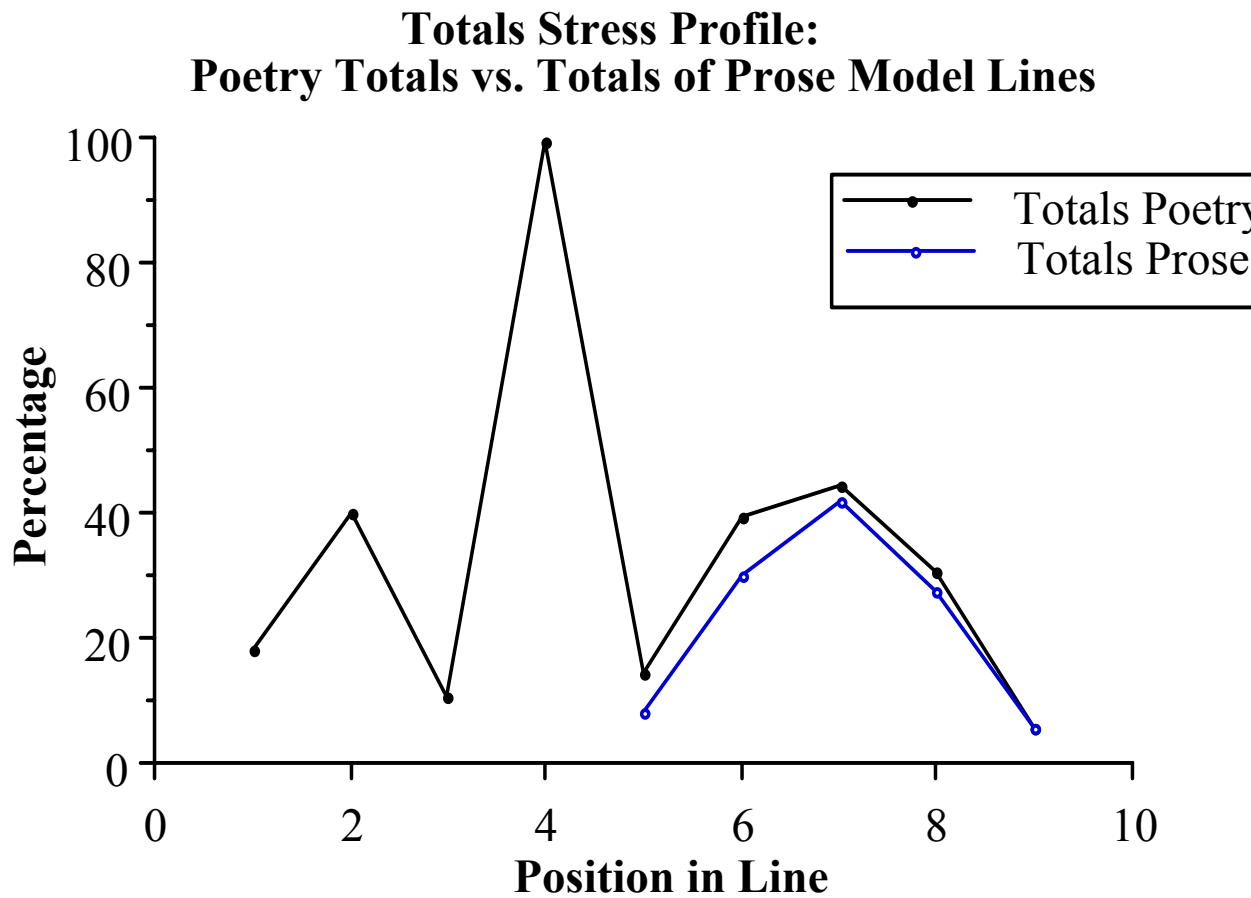
At the phonological phrase level, Tyard is like all the poets in placing a phonological phrase level break significantly more in poetry than in prose after the fifth and sixth positions. Tyard is the only poet, however, to significantly prefer a phonological break as well as a full break after the eighth position in his poetry. Finally, as with Du Bellay and Scève, Tyard has a strong preference for full breaks after the fifth, sixth, eighth and ninth positions.

3.5 Totals Poetry vs. Totals Prose:

It is hoped that, while testing each poet helps in understanding their idiosyncracies and their understanding of the decasyllable, by grouping the poetry of all the poets together, statistics may emerge which will bring an even clearer picture to the nature of the Classic French decasyllable.

3.5.1 Stress Profiles: Poetry Totals vs. Prose Model Totals

Looking at the Stress Profile graph as well as the Stress Profile chi-square results, a clearer pattern does seem to emerge:



Graph 9: Poetry Totals vs. Prose Model Totals: placement of stress in second hemistich of the line.

Stress In Position	Totals Poetry (4038 lines)	Totals Prose (2373 lines)	chi-square
5	588	190	<.0001 poetry
6	1581	708	<.0001 poetry
7	1784	1000	.1117 poetry
8	1238	650	.0056 poetry
9	231	135	.9579 poetry

Table 43: Poetry Totals vs. Prose Model Totals: frequency of stress in position of line and chi-square significance for frequencies observed.

Notice that the fifth, sixth and eighth positions again test significantly for poetry, while the seventh and ninth positions of the line favor poetry but not significantly. So traditionally held claims of stress dispreference in the ninth position are not supported by this collective poetry sampling, suggesting all the more strongly that such claims are ill-founded.

Notice in the following patterns the strong iambic tendency for poetry:

Stress Patterns Significant for Poetry			
Stress Pattern	Totals Poetry (4038 lines)	Totals Prose (2373 lines)	chi-square
010101	420	144	<.0001
101001	184	46	<.0001
110101	21	1	.0016
011001	196	83	.0102
010011	79	29	.0274
Stress patterns Significant for Prose			
000001	128	259	<.0001
001011	36	38	.0102

Table 44: Poetry Totals vs. Prose Model Totals: second hemistich stress

patterns testing at a significant level for poetry or for prose and the frequency each pattern was attested.

Several patterns favor poetry at a significant level: the straight iambic pattern (010101), the inverted iambic pattern (101001), the first foot heavy iambic pattern (110101), and the middle foot empty, heavy final foot iambic line (010011). The only pattern of somewhat mysterious cloth is the first foot heavy anapestic pattern (011001), for it is not clear why this would test significantly for poetry. As mentioned earlier in 3.3.3 for Du Bellay, it may be that the anapestic line is favorable to the poet only if he can place a stress before the seventh position of the line (indeed, this could be the reason for the poetic popularity of the 101001 pattern as well). The final-foot-heavy anapestic line, meanwhile, tests significantly for prose, and the one stress pattern (000001) does as well.

The following patterns favored poetry and prose but not at a significant level:

Stress Patterns Favoring, but not Significant for Poetry			
100101	107	46	.0716
110001	32	10	.0754
010001	788	422	.0872
100011	17	5	.1644
111001	9	2	.1954
011101	17	7	.4250
101101	17	10	.9981
Stress Patterns Favoring, but not Significant for Prose			
000111	13	15	.0690
000101	540	356	.0693

100001	68	53	.1185
000011	39	32	.1575
001001	1202	738	.2621
001101	91	61	.4205

Table 45: Poetry Totals vs. Prose Model Totals: second hemistich stress patterns not testing at a significant level for poetry or for prose and the frequency each pattern was attested.

In the first several patterns favoring poetry there are again strong iambic tendencies. The first pattern has its first foot inverted, while the second pattern is again a ‘heavy’ 010001 pattern. On the other hand, the anapestic line favors *prose*, although not to a significant degree. Notice also that the 000101 pattern, although somewhat iambic, favors prose at close to a significant level. A large part of why this is so seems to be due to the lateness of stress in the hemistich. Again, I will discuss in chapter four why I think this happens.

The following patterns were insufficiently attested to achieve a reliable chi-square result:

Insufficient Data			
Stress Pattern	Totals Poetry (4038 lines)	Totals Prose (2373 lines)	chi-square
101111	1	1	<.0001 prose
110011	2	0	.2782 poetry
011011	5	5	.3947 prose
100111	2	2	.5905 prose
110111	1	1	.7037 prose
111011	1	1	.7037 prose
111101	1	1	.7037 prose
001111	1	1	.7037 prose

101011	4	3	.7487 prose
010111	4	2	.8518 poetry
011111	0	0	n/a
111111	0	0	n/a

Table 46: Poetry Totals vs. Prose Model Totals: second hemistich stress patterns not attested at a sufficient level to achieve an accurate chi-square result.

3.5.2 Break Profiles

Taking a look at the break profile totals, it appears that strong breaks lean significantly towards poetry after every position of the line, except for after the eighth position where they still lean heavily in favor of poetry:

Totals Poetry vs. Totals Prose					
Break Level	Position in Decasyllabic Line				
	5	6	7	8	9
Within word	.2044 poetry	<.0001 prose	.0017 prose	.1668 prose	.6907 poetry
Clitic Group	.0002 prose	.0102 prose	.8038 poetry	.7181 prose	.0149 prose
Cohesion Index	<.0001 prose	<.0001 prose	.0033 prose	.0788 prose	.0063 prose

Within Phonological Phrase	<.0001 poetry	<.0001 poetry	.7237 poetry	.0298 prose	.0114 poetry
Full Break	.0012 poetry	<.0001 poetry	.0002 poetry	<.0001 poetry	<.0001 poetry
Disjuncture Index	<.0001 poetry	<.0001 poetry	.0021 poetry	.0869 poetry	.0018 poetry

Table 47: Poetry Totals vs. Prose Model Totals: chi-square results in each position of the second hemistich for the four different levels of syntactic break studied in this analysis; frequencies for the above can be found in Appendix A.

Notice that at the within word level, the poets as a whole disprefer word-units covering both the sixth and seventh or seventh and eighth positions, being particularly pronounced after the sixth position. At the clitic group level, a clitic break is dispreferred after the fifth, sixth and ninth positions. The cohesion index is significant for prose after every position of the line except the eighth position where the results still favor prose at close to a significant level.

The poets place a phonological phrase level break significantly more often after the fifth, sixth, eighth and ninth positions. Full breaks while occurring most frequently after the sixth and seventh positions, are significant for poetry after every position of the line. The results for the disjuncture index, as might be predicted, are the exact inverse of the results for the cohesion index: they are significant for poetry after every position of the line except the eighth.

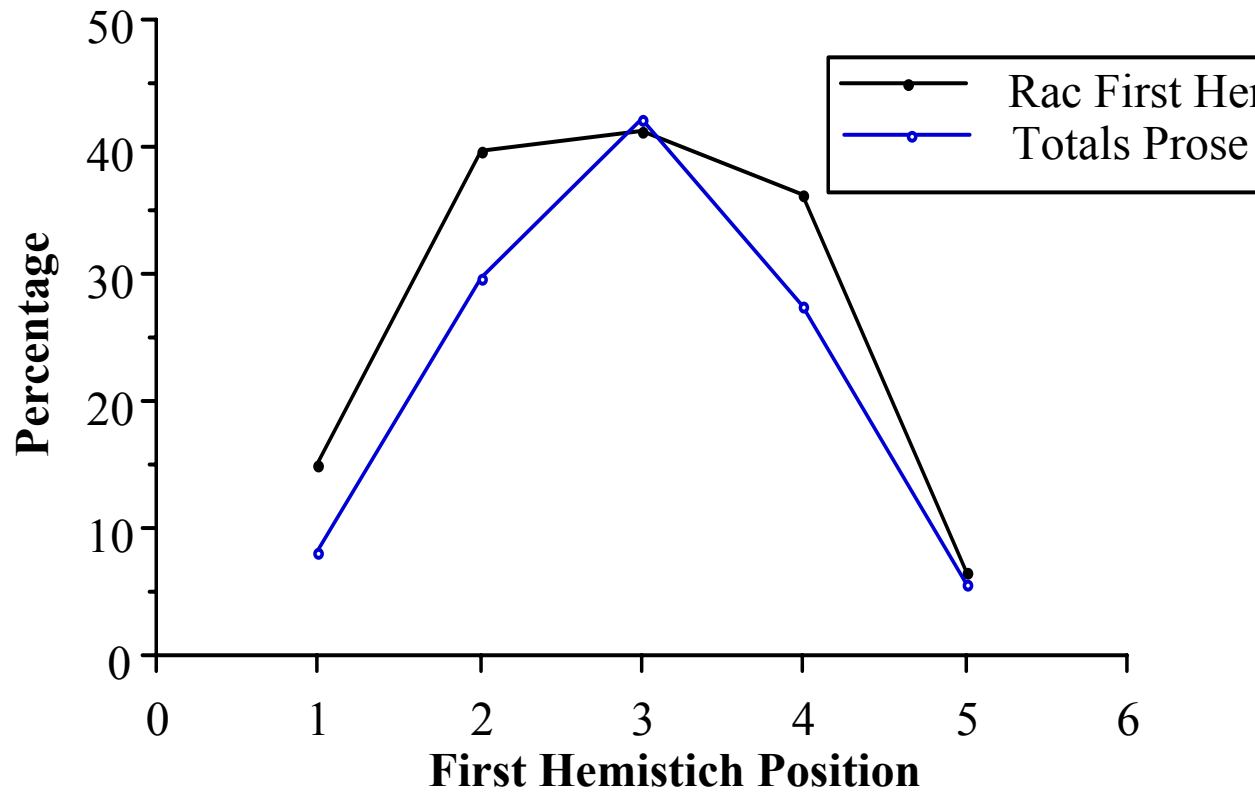
3.6 Racine

In this study, Racine's Iphigénie was the only seventeenth century work analyzed. The results here can therefore only suggest preliminarily the nature of the Classic French Alexandrine or even Racine's Alexandrine. There are several reasons why this should be so. First of all, as noted above, this analysis covers not only one author, but also only one of that author's plays. Secondly, in comparing the stress and break profiles of Iphigénie, I have made use of the same second hemistich prose model totals used to assess the metrics of the classic French decasyllable. While the rules for the second hemistich of the Decasyllable and Alexandrine are ostensibly the same, it is not entirely clear what distinct metrical rhythms may be incurred by the extra two syllables in the first hemistich of the Alexandrine.

3.6.1 First Hemistich

Racine's first hemistich shows strong iambic qualities:

Racine First Hemistich Stress Profile: Poetry vs. Totals of Prose Model Lines



Graph 10: Racine's *Iphigénie* (first hemistich) vs. Prose Model Totals: placement of stress in the line.

Stress In Position	Racine First Hemistich Poetry (1765 lines)	Totals Prose (2373 lines)	chi-square
1	266	190	<.0001 poetry
2	703	708	<.0001 poetry
3	727	1000	.5395pro
4	642	650	<.0001 poetry
5	116	135	.2391 poetry

Table 48: Racine's Iphigénie (first hemistich) vs. Prose Model Totals: frequency of stress in position of line and chi-square significance for frequencies observed.

Notice that the second and fourth positions test significantly for poetry, while the third position favors prose, although only slightly. Notice that the fifth position favors poetry, although not significantly, which again contradicts the claim of traditional analyses albeit less markedly than in some of the previous results, that the poet disprefers stress placement here. The first position also tests significantly for poetry, something which occurred with Scève and Tyard in the fifth position of the Classic French decasyllable. This follows because here the first position does usually also come after a significant syntactic break.

The following patterns were significant for poetry and prose:

Stress Patterns Significant for Poetry:			
Stress Pattern	Racine First Hemistich Poetry (1765 lines)	Totals Prose (2373 lines)	chi-square
010101	196	144	<.0001
101001	96	46	<.0001
100101	68	46	.0002
101101	19	10	.0125
101011	8	3	.0434
110001	15	10	.0434
001101	64	61	.0498
Stress Patterns Significant for Prose			

Stress Pattern	Racine First Hemistich Poetry (1765 lines)	Totals Prose (2373 lines)	chi-square
001001	404	738	<.0001
000001	34	259	<.0001
000011	23	32	.0160
000101	224	356	.0342

Table 49: Racine's *Iphigénie* (first hemistich) vs. Prose Model Totals: stress patterns testing at a significant level for poetry or for prose and the frequency each pattern was attested.

Taking a look at the stress patterns for the line, Racine's first hemistich tests significantly for several iambic patterns: the straight iambic pattern (010101), the inverted iambic pattern (101001) and the middle inverted iamb (100101).

The anapestic pattern, on the other hand, tests at a .01% significant level for prose, and, as with results for the decasyllabic poets, stress is placed in the fourth position of the line with much greater frequency in prose than in poetry.

The following patterns favor poetry or prose though not at a significant level:

Stress Patterns Favoring but not Significant for Poetry:			
Stress Pattern	Racine First Hemistich Poetry (1765 lines)	Totals Prose (2373 lines)	chi-square
100011	9	5	.1011
011001	72	83	.3298
010001	333	422	.3726
010011	24	29	.6969

011101	6	7	.7983
Stress Patterns Favoring, but not Significant for Prose			
Stress Pattern	Racine First Hemistich Poetry (1765 lines)	Totals Prose (2373 lines)	chi-square
100001	26	53	.0771
000111	7	15	.3029
001011	23	38	.4311

Table 50: Racine's *Iphigénie* (first hemistich) vs. Prose Model Totals: stress patterns not testing at a significant level for poetry or for prose and the frequency each pattern was attested.

Testing at an almost significant level for prose is the 100001 pattern seen also to favor prose in the decasyllable. On the other hand, notice that the 100011 pattern tests almost significantly for poetry. The reason why this is so will be suggested in the following chapter; for now I will simply say that it seems to relate to the maximum number of stressless syllables poets normally feel comfortable allowing within the hemistich.

The following patterns were insufficiently attested to achieve an accurate chi-square result:

Insufficient Data			
Stress Pattern	Racine First Hemistich Poetry (1765 lines)	Totals Prose (2373 lines)	chi-square
110101	8	1	.0050 poetry
010111	8	2	.0168 poetry
111001	4	2	.2340 poetry
110011	1	0	.2462 poetry

111011	0	1	.3884 prose
111101	0	1	.3884 prose
110111	0	1	.3884 prose
101111	0	1	.3884 prose
001111	2	1	.4002 poetry
100111	1	2	.7440 prose
011011	3	5	.7680 prose
011111	0	0	n/a
111111	0	0	n/a

Table 51: Racine's Iphigénie (first hemistich) vs. Prose Model Totals: stress patterns not attested at a sufficient level to achieve an accurate chi-square result.

3.6.2 Break Profiles: Racine First Hemistich

Racine seems also consciously or unconsciously to have distinguished between the cohesive tightness of syllables within a word and syllables joined by a clitic group. Notice again the marked difference in the first, third, fourth and fifth positions between these two levels. It is only in the second position that these two levels of break are in agreement, both being dispreferred in poetry at a significant level. These results suggest that this is therefore the strongest break in the hemistich:

Racine First Hemistich Poetry vs. Totals Prose					
Break Level	Position in Decasyllabic Line				
	1	2	3	4	5
Within word	.0001 poetry	<.0001 prose	<.0001 prose	<.0001 prose	<.0001 prose

Clitic Group	<.0001 prose	.0005 prose	.0002 poetry	.0001 poetry	<.0001 poetry
Cohesion Index	<.0001 poetry	<.0001 prose	.0438 prose	.0017 prose	3303 poetry
Within Phonological Phrase	.0092 poetry	.8107 poetry	<.0001 prose	.0003 prose	.5290 prose
Full Break	<.0001 poetry	<.0001 poetry	<.0001 poetry	<.0001 poetry	.5538 prose
Disjuncture Index	<.0001 poetry	<.0001 poetry	.0623 poetry	.0052 poetry	.4334 prose

Table 52: Racine's *Iphigénie* (first hemistich) vs. Prose Model Totals: chi-square results in each position of the second hemistich for the four different levels of syntactic break studied in this analysis; frequencies for the above can be found in Appendix A.

Racine seems to have preferred a word-unit to cover the first and second position and then to have preferred small clitic level breaks from after the third position onward. Full breaks were significantly more common for poetry after every position of the line except the fifth position. The disjuncture index proved significant after the first, second and fourth positions of the line, suggesting a possible echoing in the word bracketing of the metrical bracketing of an iambic pattern, an echoing also suggested by the stress profiles.

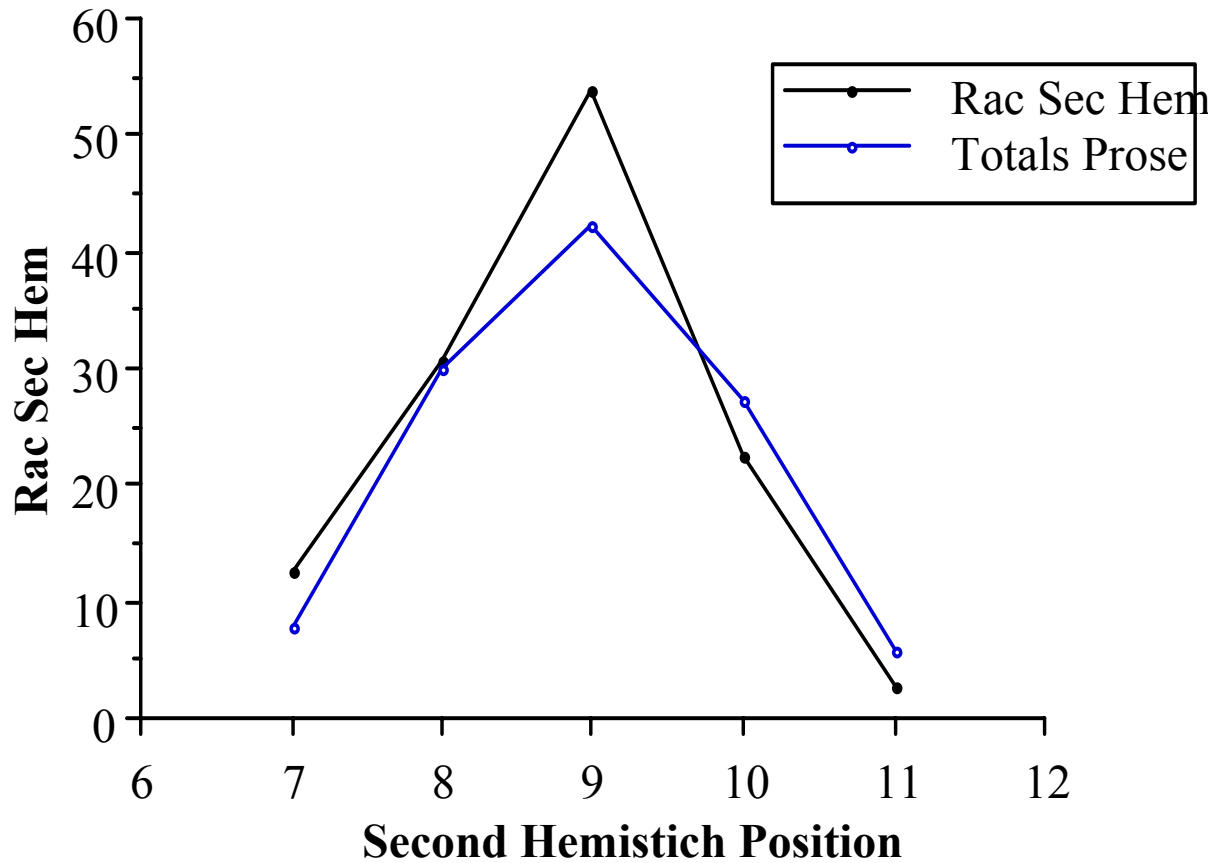
3.7 Racine: Second Hemistich

One might be tempted to conjecture that the two hemistichs of an Alexandrine would match up roughly similarly; according to the results below, this proves to be far from the case.

3.7.1 Stress Profiles: Racine Second Hemistich

Unlike the strong iambic suggestion of the first hemistich comparisons, the stress profile for the second hemistich suggests that Racine consciously or unconsciously understood the second hemistich as anapestic:

Racine Second Hemistich Stress Profile: Poetry vs. Totals of Prose Model Lines



Graph 11: Racine's *Iphigénie* vs. Prose Model Totals: placement of stress in second hemistich of the line.

Stress in Position	Racine 2nd Hemistich (1765 lines)	Totals Prose (2373 lines)	chi-square
7	220	190	<.0001 poetry
8	540	708	.5987 poetry
9	953	1000	.0001 poetry
10	400	650	.0005 prose

11	51	135	.0001 prose
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Table 53: Racine's Iphigénie (second hemistich) vs. Prose Model Totals: frequency of stress in position of line and chi-square significance for frequencies observed.

Notice that the second hemistich is markedly different from the first; here the line favors poetry in the eighth position slightly and favors *prose* in the tenth position. On the other hand, unlike the first hemistich, the second hemistich tests significantly for poetry in the ninth position of the line (the first hemistich's third position equivalent).

Suspensions of the anapesticity of the line are further supported by the stress pattern results:

Stress Patterns Significant for Poetry			
Stress Pattern	Racine Second Hemistich Poetry (1765 lines)	Totals Prose (2373 lines)	chi-square
001001	663	738	<.0001
101001	111	46	<.0001
Stress Patterns Significant for Prose			
Stress Pattern	Racine Second Hemistich Poetry (1765 lines)	Totals Prose (2373 lines)	chi-square
000101	183	356	<.0001
000001	74	259	<.0001
000111	3	15	.0255
001011	16	38	.0314
000011	12	32	.0381

Table 54: Racine's Iphigénie (second hemistich) vs. Prose Model Totals:

second hemistich stress patterns testing at a significant level for poetry or for prose and the frequency each pattern was attested.

The anapestic pattern tests significantly here for poetry, something which has not been the case with any of the previous poets except for Ronsard who tested so against the prose model totals in 3.2.3. The inverted iambic pattern, which admittedly could be argued an anapestic line with an extra stress, also tests significantly here for poetry.

Those results testing for prose share the common thread of having stress later in the line: 000101 tested significantly for prose as it did in the first hemistich and the 000001 pattern tested significantly for prose again here, this suggests further that the poets on the whole avoid sequences with more than two consecutive stressless syllables in their poetry.

The following patterns favored poetry or prose, but not beyond a 5% significance level:

Stress Patterns Favoring, but not Significant for Poetry			
Stress Pattern	Racine Second Hemistich Poetry (1765 lines)	Totals Prose (2373 lines)	chi-square
011001	74	83	.2472
001101	56	61	.2477
010001	333	422	.3726
100101	41	46	.3939
101101	9	10	.6770
Stress Patterns Favoring, but not Significant for Prose			

Stress Pattern	Racine Second Hemistich Poetry (1765 lines)	Totals Prose (2373 lines)	chi-square
010011	11	29	.0515
010101	95	144	.3496
100001	34	53	.4598
110001	10	10	.9035

Table 55: Racine's Iphigénie (second hemistich) vs. Prose Model Totals: second hemistich stress patterns not testing at a significant level for poetry or for prose and the frequency each pattern was attested.

The statistics here further suggest that the second hemistich of the Alexandrine is unlike the second hemistich of the classic French decasyllable and also unlike its own first hemistich. Notice, for example, that the 010011 pattern, which might be viewed as a heavy 010001 pattern, a pattern which commonly tested for poetry in other analyses, tests at very close to a significant level for prose here in the second hemistich. Furthermore, the iambic pattern also favors prose, something contrary to all the other poets who tested significantly for poetry against the same prose model totals. I will discuss what this may potentially mean for the underlying pattern of the classic French alexandrine, but it must be remembered that all results here are strictly preliminary due to the limited scope of the data sample.

The following patterns were insufficiently attested to achieve a reliable chi-square result:

Insufficient Data

Stress Pattern	Racine Second Hemistich Poetry (1765 lines)	Totals Prose (2373 lines)	chi-square
111001	6	2	.0641 poetry
110101	3	1	.1906 poetry
011011	1	5	.1977 prose
011101	2	7	.2147 prose
100111	0	2	.2225 prose
110011	1	0	.2462 poetry
110111	0	1	.3884 prose
101111	0	1	.3884 prose
111101	0	1	.3884 prose
111011	0	1	.3884 prose
001111	0	1	.3884 prose
100011	2	5	.4509 prose
010111	1	2	.7440 prose
101011	2	3	.9035 prose
011111	0	0	n/a
111111	0	0	n/a

Table 56: Racine's *Iphigénie* (second hemistich) vs. Prose Model Totals: stress patterns not attested at a sufficient level to achieve an accurate chi-square result.

3.7.2 Break Profiles: Racine Second Hemistich

Taking a look at the break profiles, there is again a division between cohesion levels:

Racine Second Hemistich Poetry vs. Totals Prose					
Break Level	Position in Decasyllabic Line				
	5	6	7	8	9
Within word	<.0001 poetry	.5146 prose	<.0001 prose	.0002 prose	.3711 poetry

Clitic Group	<.0001 prose	.0138 prose	.7459 prose	<.0001 poetry	.0244 poetry
Cohesion Index	.0060 prose	.0001 prose	<.0001 prose	<.0001 poetry	<.0001 poetry
Within Phonological Phrase	.6309 prose	.0091 poetry	<.0001 poetry	.0034 prose	<.0001 prose
Full Break	<.0001 poetry	.0021 poetry	.0011 poetry	.0009 prose	.0122 prose
Disjuncture Index	.0006 poetry	<.0001 poetry	<.0001 poetry	<.0001 prose	<.0001 prose

Table 57: Racine's *Iphigénie* (second hemistich) vs. Prose Model Totals: chi-square results in each position of the second hemistich for the four different levels of syntactic break studied in this analysis; frequencies for the above can be found in Appendix A.

In the fifth position, the word-level break tests significantly for poetry, while the clitic level break tests significantly for prose in the fifth position. The contrary is the case in the eighth and ninth position of the line: word-units test significantly for poetry while clitic breaks test significantly for prose at the same position.

4 **Interpretations**

From the stress profiles and stress pattern profiles of the poets, it is clear that the placement of stress in the line plays an integral part in their composing verse. All the poets put more stresses and breaks in their poetry than in their

prose. That it is so for every poet makes it all the more unquestionable that the traditional account of the line as purely syllabic is incomplete.

Stress plays an important role in determining the metrical complexity of the line by both its presence or extended absence. There are three phenomena which the results suggest are particularly significant: (1) clashes -- adjacent stresses within a hemistich; (2) lapses -- adjacent stressless syllables; and (3) upbeat -- adjacent stressless syllables beginning the hemistich.

4.1 Stress Clashes

A stress clash involves stresses placed adjacently in the hemistich. The fact that the results suggest they are unpopular in poetry may possibly stem from the difficulty such a line would give to the reader if he were to do equal justice to both stresses. Take the following examples:

(1)

1	2	3	4	5	6	7	8	9	10	(11)
					`	`		`	`	

Aux mouvements desquelz (las) mon coeur tremble
(Tyard, Les Erreurs Amoureuses, Sonet, III, 4)

(2)

1	2	3	4	5	6	7	8	9	10	(11)
					`	`		`	`	

A ces doux fruits en toy meurs devant l'aage
(Du Bellay, L'Olive, XXXII, 12)

(3)

1 2 3 4 5 6 7 8 9 10 (11)
 ` ` ` ` ` ` ` ` ` ` ` `

Qui ses segretz nous apportez grand erre
 (Ronsard, Les Amours, XXXI, 4)

It should be noted, however, that stress clashes are also infrequently attested in prose. For Ronsard, for example, adjacent stresses were found in 10.7% (53/493) of his prose as compared to 11% (117/1022) of his poetry .

4.2 Lapses

Lapses are essentially the opposite of stress clashes, involving adjacent stressless syllables. For convenience in this analysis, a sequence of two stressless syllables will be termed a lapse₂, a sequence of three stressless syllables a lapse₃, and so forth. The following lines serve as examples of stress lapses:

(4)
 1 2 3 4 5 6 7 8 9 10 (11)
 ` ` ` ` (` `) ` ` ` ` ` ` (lapse₃)
 bien fut jadis la chasteté craitive

(5)
 1 2 3 4 5 6 7 8 9 10
 ` ` ` ` ` ` (` `) ` ` ` ` ` ` (lapse₄)
 Si vive encor Laure par l'Univers
 (Ronsard, Les Amours, LXXIII, 9)

(5)
 1 2 3 4 5 6 7 8 9 10
 ` ` ` ` ` ` (` `) ` ` ` ` ` ` (lapse₅)

Parfeit un corps en sa perfection
(Scève, Le Délie, II, 6)

Lines such as those above prove to be highly metrically complex on the whole. The poets tend to avoid lines of lapse₄ or more. This means that patterns such as 100001, 000011 and 000001 are all beyond the normal threshold of lapses for most of the poets' poetry, and these patterns do test consistently for prose. It would be expected, however, that patterns of lapse₃, such as 010001 and 000101, which do not exceed this lapse threshold, would not test significantly for prose. While the former pattern does often test for poetry, this is on the whole not the case for the 000101 pattern. Why is this so?

4.3 Upbeats

The answer appears to be that the poets have a particular intolerance for beginning the hemistich with a series of two or more stressless syllables. This phenomenon is also common in music, where notes known as 'upbeats' are less common. Upbeats are notes which precede the downbeat of a musical piece. Here is an example of an upbeat (pitch values are omitted here):

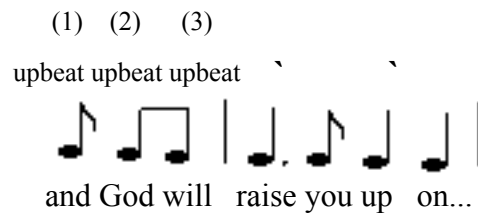
(7)
(1)
upbeat ‘ ‘



(Beginning of "Hosanna, Loud Hosanna")

While not rare, they are nonetheless a more marked way to begin a measure. It is all the more marked, furthermore, to have a series of upbeat begin a piece, such as in the following example:

(8)



(Beginning of "On Eagle's Wings")

This seems also to hold true for the poets' understanding of their metrical tradition; they disprefer beginning a hemistich with more than two upbeats. Thus, lines such as the following were found with much greater frequency in prose than in poetry:

1)

(0 0 0 1 0 1)
1 2 3 4 5 6 (7)

...volontiers] aux jugements débiles. [Ils me font tort...

(Montaigne, Les Essais, p. 68)

2)

(0 0 0 1 0 1)
 1 2 3 4 5 6 (7)
 , ,

se consolant,] et lamentant a elles [, vouloit bien...
 (Scève, Flamète, p.428)

They were attested in poetry also however, albeit much less frequently:

(9)

(0 0 0 1 0 1)
 5 6 7 8 9 10 (11)
 , ,

De mon malheur, sur l'amoureuse roue
 (Tyard, Les Erreurs amoureuses, II, 13)

(10)

(0 0 0 1 0 1)
 5 6 7 8 9 10 (11)
 , ,

Grand fut le coup qui sans tranchante lame
 (Scève, Le Délie, I, 7)

Note that upbeats are like lapses but have a lower threshold in poetry; a lapse₃ is commonly attested, and indeed patterns with lapse₃ tested significantly for poetry, e.g., the 010001 pattern, whereas patterns with an upbeat₃ tested frequently for prose.

These tendencies are summarized as follows:

(11)

Stress clash₂ is uncommon in the Classic French decasyllable

(12)

Lapse₄ is significantly dispreferred in the Classic French decasyllable

(13)

- a. Upbeat₃ is significantly dispreferred in the Classic French decasyllable
- b. Excepting Ronsard, upbeat₂ is significantly disfavored in the Classic French decasyllable.

4.4 Suggested Underlying Patterns

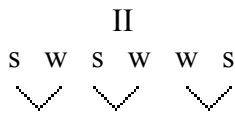
There are four patterns which obey all of the constraints of stress clash, stress lapse and upbeat. In these four patterns there are no stress clashes, there is only a lapse₃, and there is only an upbeat₁, well beneath the upbeat₃ threshold.

These patterns are the following:

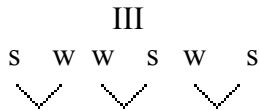
(14)



(15)



(16)



(17)





In the first pattern there are no stress clashes, there is only a lapse₃, and there is only an upbeat₁, well beneath the upbeat₃ threshold. In the second pattern, there are no stress clashes, there is a lapse₂, and there is no upbeat. In the third example, there are again no stress clashes or upbeats and there is only a lapse₂. In the fourth example, there are no stress clashes, and lapse and upbeats are level one.

There are three patterns which violate either lapse or upbeat or both. These patterns, by their lapse and upbeat violations, tested significantly for prose. There are also numerous patterns violating stress clash as well. Patterns with stress clash are not included here because, as mentioned in 4.1, the results suggest on the whole that stress clash is avoided as much in prose as it is in poetry. Therefore, stress clash, while relevant, does not on the whole seem to serve as a distinctive between prose and poetry:

(18) 000001

(19) 000101

(20) 100001

The first pattern has lapse₅ and upbeat₅, a pattern which therefore violates the threshold levels established here for both lapse and upbeat for the Classic French decasyllable. The second pattern is only lapse₃, but is dispreferred because it is

upbeat₃ which is beyond the threshold for upbeats. The third pattern has an initial stress so there is no upbeat, yet because it is lapse₄, it is a marked line for the French decasyllable.

Looking at the poets' poetry against their prose, it is of interest to see if the poets particularly favor the five possible patterns noted above that are not in violation of either clash, lapse or upbeat threshold levels. The following table groups together the significant stress pattern profiles for all the poets when compared against their own prose. In the following table, the Roman numeral represents the pattern, and the check under a pattern indicates that the author was significant for that pattern:

Testing Significantly for Poetry vs. Own Prose Model					
Poet	I 010001	II 001001	III 101001	IV 100101	V 010101
Du Bellay					
Ronsard			√		√
Scève	√		√		
Tyard	√		√	√	√
(Also testing significantly for poetry) Tyard (010011√)					
Testing Significantly for Prose vs. Own Prose Model					
Poet	000001	000101	100001	(001001)	
Du Bellay	√		√		
Ronsard	√				
Scève	√	√			
Tyard	√			√	

Table 58: All Poets vs. Own Prose: stress pattern profiles testing at a significant level for prose or poetry; frequencies and exact chi-squares are listed in Appendix A.

The poets, matched against their own prose, show a marked preference for lines with no more than one upbeat. It is noteworthy that no poet tests significantly here for the anapestic pattern.

Taking a look at the poets compared to the totals of the prose model lines, more patterns emerge at a significant level. The table that follows shows only the patterns which tested significantly for poetry for each author:

Testing Significantly for Poetry vs. Totals of Prose Model Lines					
Poet	I 010001	II 001001	III 101001	IV 100101	V 010101
Du Bellay			√	√	√
Ronsard			√		√
Scève			√		√
Tyard	√		√		√
Totals Renaissance:			√		√
Racine 1h			√	√	√
Racine 2h		√	√		
Likely Subsets of above Patterns Testing Significantly for Poetry vs. Totals of Prose Model Lines					
Poet	I 010001	II 001001	III 101001	IV 100101	V 010101
Du Bellay		011001√			
Ronsard					
Scève	110001√				
Tyard	010011√ 110001√				110101√
Totals Renaissance:	010011√	011001√			110101√
Racine 1h	110001√		101011√	101101√	
Racine 2h					
Also Testing Significantly: 001101 -- Racine; First Hemistich					

Table 59: All Poets vs. Prose Model Totals: stress pattern profiles testing at a significant level for poetry; frequencies and exact chi-squares are listed in Appendix B.

Notice again that the poets' preferred stress patterns have a stress in the fifth or sixth position. The anapestic pattern is again surprisingly absent considering the traditional view of the line, except for its significance in the second hemistich of Racine's Alexandrine. Notice also that the iambic pattern and the inverted iambic pattern are significant for almost every poet, the only exception being the iambic pattern for the second hemistich of Racine.

The three patterns noted in 4.4 which violate lapse or upbeat, prove the most pronounced for prose. Note particularly the similar results among all poets concerning the 000001 pattern, a pattern which violates both lapse and upbeat:

Patterns Testing Significantly for Prose: Poet vs. Prose Model Totals				
Poet	000001	000101	100001	(001001)
Du Bellay	√		√	
Ronsard	√		√	
Scève	√			√
Tyard	√			√
Totals Renaissance:	√			
Racine 1h	√	√		√
Racine 2h	√	√		
Likely Subsets of above Patterns Testing Significantly for Prose Poet vs. Totals of Prose Model Lines				

Poet	000001	000101	100001	001001
Du Bellay	000011√			
Ronsard		001101√		
Scève				
Tyard				
Totals Renaissance:				001011√
Racine 1h	000011√			
Racine 2h	000011√	000111√		001011√

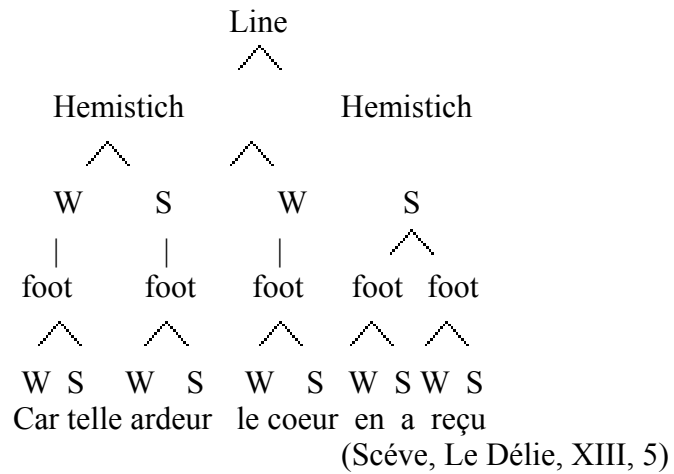
Table 60: All Poets vs. Prose Model Totals: stress pattern profiles testing at a significant level for prose; frequencies and exact chi-squares are listed in Appendix B.

All the poets agree that the 000001 hemistich is a strongly marked rendering of the hemistich. Furthermore, excessive lapses such as in 100001 are also avoided in poetry, suggesting that placing too many upbeats in the line is not the sole element to be avoided. Furthermore, the anapestic pattern tests for several poets at a significant level for *prose*, something which further suggests the anapest is not a representative pattern for the Classic French decasyllable and that therefore upbeats and lapses play a role in determining metrical complexity even at as low a level as two.

Based on the significantly strong breaks favoring poetry for each of the poets when compared against the prose-model totals after the sixth position, and further based on the general tendency among poets to put stress in the sixth position and strong breaks after the sixth position, I posit that the underlying pattern of the decasyllable is best formalized as follows:

(21)

The Classic French Decasyllable



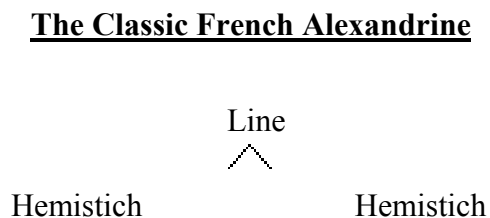
Such a pattern would also be in agreement with what has often been noted across other metrical traditions of beginnings of patterns to be freer than their ends. At the right edge of a domain there is a stronger compulsion to align the bracketing and stress then at a foot which does not constitute a sole branch. From the diagram above, the freest foot would then be in the seventh and eighth position, while the strictest cohesion to the underlying pattern would be found in the sixth and tenth positions since the right edge of their domains branch higher up in the hierarchy. It would further be expected that their be even stricter resolution in the tenth position than in the sixth because it is not only also at the right edge of the hemistich but alos of the entire line. A relative indeterminacy would furthermore be expected in the seventh and eighth positions since this middle foot is from the

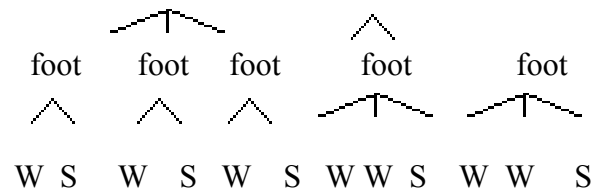
left branch of the S node of the hemistich rather than being at the right edge. All these expectations, implicated by the above formalization, correspond to the statistics obtained in this analysis.

Ronsard does, however, test significantly for poetry in the anapestic pattern. It may well be that Ronsard particularly enjoyed the effect of a seventh position stress, and so employed this metrical effect more than the others in his verse. I would conjecture that it may also be due to Ronsard's musical influence. Ronsard felt that poetry should be accompanied by music when it was recited. This would explain the four-beat pattern that is in general created by having an anapestic pattern in the second hemistich of a decasyllabic line, suggesting that music did influence Ronsard's verse. That he nonetheless tests significantly for the iambic pattern as well still supports, however, the notion of the second hemistich as being composed underlyingly of three iambic feet. The above formalization furthermore accommodates Ronsard's style further in that it does allow for play at the seventh position of the line.

As for Racine, I would issue again the caveat that the results here can only be viewed as preliminary, but they suggest that the underlying pattern of his Classic Alexandrine might be most faithfully rendered as follows:

(22)





The data suggest that the hemistichs are not realized in the same fashion; the first hemistich appears to be iambic while the second hemistich seems to be anapestic. While the results here are intriguing, they will require further statistical support before this pattern can be more persuasively argued as the representation of the Classic French Alexandrine.

5. Conclusions

Grammont (1937), lamenting the ignorance of those unable to understand the freedom and variability of classic verse stated, “Beaucoup de personnes s'imaginent que nos vers du mode classique sont d'une intolérable monotonie et qu'ils sont tous rythmés d'une manière uniforme... Ce sont là des jugements superficiels et erronés, qui n'ont pu naître que dans le cerveau de gens qui comprennent mal et ne savent pas dire nos alexandrins.” (Grammont: 84) Often in this combative and subjective spirit, it has been strongly held that the Classic French decasyllable and Alexandrine are purely syllabic meters. By these accounts, stress is placed variously in the line according to the poet's rhythmic desires but not to the dominance of a particular rhythm. Conclusively determining the role of stress in French verse has been difficult because, unlike its very tonic linguistic relatives, French legendarily stands apart in terms of stress as 'une langue éffacée'.

However, by a consistent application of a well-defined and strongly reliable system of rules in assessing stress placement in French verse, it is hoped that a more objective analysis has been achieved here. Furthermore, using prose model lines, it is possible to separate those phenomena concomitant with the inviolable syllabic, caesural and stress constraints of the second hemistich, and those that occur independently from these restrictions. The results from this analysis strongly suggest that the Classic French decasyllable is not merely a syllabic tradition but that the poets had a deeper rhythmic understanding of the

verse tradition, an understanding echoed in the verse. From the break level placements in the line to the placement of stress, the data suggest an iambic pattern underlying the verse, a pattern similar in many ways to the iambic pentameter of Shakespeare.

Kiparsky (1977) lamented that in metrical studies “there have really been two independent lines of metrics, each incomplete by itself: theories without data, never really doing justice to the extensive but systematic diversity within the tradition; and data without theory, unable to find the shared foundation of all English metrics.” He concluded that “had they connected properly, many of the odd but traumatic controversies that have periodically shaken the field of metrics would have been unnecessary.” (Kiparsky: 245). By the efforts here to understand both the major theoretical principles driving metrics and the statistical results derived from matching a poet's poetry first against his own prose and then against a prose model composite, it is hoped that justice has been served to both fields here.