

Textual Variation and the Representation of Dialect in Petronius' *Satyricon**

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Abstract

In this thesis, I test a methodology for a quantitative analysis of orthographic error in the *Satyricon*. For six types of spelling deviation, I calculate *the percentage of change* – the number of deviant spellings (the *number changed*) divided by the number of tokens that had a phonetic environment susceptible to change (the *potential targets*). I compare this figure for the narrative portions of the text and the dialogue portions of the text. I then use a two-sample proportion test to determine whether there is a statistically significant difference between the dialogue and narrative portions of the text.

My results are not conclusive grounds for emendation, because I only had a large enough data sample to obtain significant results for degemination. However, there were clear evidence that degemination was a scribal error and some suggestion that the merger of [e:] and [i] might be deliberately employed. This methodology is too time-consuming to be practical unless data is to be collected with a computer. This type of analysis will yield the most interesting and accurate results when performed in tandem with a close qualitative reading of error in the text.

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1. Introduction

Latin manuscripts are full of errors that reflect Romance phonology. For instance, classical Latin had <h>, which is generally assumed to be the laryngeal fricative [h]. All traces of classical Latin [h] have been lost from speech since the early Roman empire¹. Romance scribes after that time couldn't use their own pronunciation as a guide for when to write <h> for Latin words, so we have examples like scribal <ortis> for HORTIS, where an expected <h> is omitted, and cases like scribal <holim> for OLIM, where an <h> was needlessly inserted by hypercorrection.

Modern editors of a classical text usually strive to eliminate these errors and present a text as free from scribal corruption as possible. This task is significantly more complicated for the *Satyricon*. Unlike other Latin authors, Petronius deliberately uses misspellings for literary effect. These deviant spellings are meant to represent the speech of lower-class characters, particularly the freedmen at Trimalchio's banquet.

Petronius' literary misspellings are problematic for editors because these spellings reflect actual Romance dialects, and thus are very similar to the mistakes that scribes make based on their Romance pronunciation. Modern editors agree that some errors in the *Satyricon* are deliberate vulgarisms and others are genuine errors. However, there is not complete consensus as to which forms fall into which category. Müller's 1961 text², the most popular modern edition, has come under attack from

¹ Herman (2000) 38.

² Müller, K. (1961).

scholars such as B. Boyce (1991)³ and P. B. Corbett (1979)⁴ for editing out too many forms that could be intentional deviations by Petronius.

Bret Boyce⁵ applies a qualitative approach to error in the *Satyricon*, in which he selects certain phonologically, morphologically, or syntactically nonstandard forms from the manuscripts and uses specific instances in which they appear to argue that they are being deliberately used for literary effect. He pays particularly close attention to the role of characterization in his analysis. This allows Boyce to highlight particular points of information well, but it presents a biased portrait of the data because he cherry-picks the results he wants to find.

In contrast to Boyce's approach, I apply a quantitative analysis. I choose six spelling errors that could represent sub-elite Latin phonology or be caused by Romance pronunciation, and I generate statistics for how often they appear in the text. This analysis yields new results that contribute to the debate about which errors should and should not be emended out of the text. It also models a new methodology for evaluating manuscript error.

In Section 2, I begin with historical background helpful for understanding the linguistic situation in the text. An introduction to the text and author of the *Satyricon* provides a framework of reference for the thesis. Emending the text is tied closely to its manuscript tradition, so I provide an overview of the manuscript tradition of the text, particularly the *Codex Traguriensis*, the manuscript I choose for my analysis. Finally,

³ Boyce (1991).

⁴ Corbett (1979).

⁵ Boyce (1991).

because Petronius employs deviant forms to represent the speech of freedmen, I very briefly treat the place of freedmen in Roman society, the identity and portrayal of the freedmen by Petronius, and the more general use of eye dialect in literature to represent the speech of marginalized characters.

Section 3 offers the linguistic framework on which my work is based. In order to explain better how spelling errors represent deviations from classical Latin pronunciation, I describe our best estimate of how classical Latin was pronounced. I also discuss how the sound system of Proto-Romance differs from classical Latin, particularly in regard to the six sound changes on which my analysis is founded.

In Section 4, I present my methodology and results, with discussion of the results divided for each of the six sound changes. In Section 5, I evaluate the success of my thesis goals in light of these results and offer suggestions for improving this methodology for future research.

2. Historical Background

2.1 Petronius, the *Satyricon*, and Neronian

Few masterpieces of world literature are so shadowy as this: the author of the *Satyricon* is uncertain, as are the date of composition, the title and the meaning of the title, the original extent of the work, and its plot, not to mention less concrete but important matters such as the literary genre to which it belongs and the reasons why this work, which is unusual in so many regards, was conceived and published. The artistic greatness of the work – the sole feature that does not appear controversial – only heightens our curiosity.⁶

2.1.1 *The Satyricon*

A *satyricon* is “a recital of lecherous happenings”⁷, apt for the title of Petronius’ work. The title is also probably a pun with *satura*, satire⁸. The story is told largely in prose, but poetry is scattered throughout. The genre is uncertain⁹.

As Conte’s quote above suggests, it’s difficult to talk about anything in the *Satyricon* with certainty. Part of the problem is that the text we have is very fragmentary. We have scattered fragments from throughout the text, but our substantial portions are from books 14-16, of which book 15 likely “coincided in large

⁶ Conte (1994) 454.

⁷ Walsh (1996) xv.

⁸ Walsh (1996) xv-xvi.

⁹ For a detailed discussion of the generic influences of the *Satyricon*, see Courtney (2001) 12-33. Particularly convincing is his description of the *Satyricon* as an inversion of the Greek Romance novel, pp. 26-29.

part with the Feast of Trimalchio"¹⁰. We don't have any idea how many books there are supposed to be. Walsh speculates on an *Odyssey*-like twenty-four books, but this is simply speculation. If it's true, we only have about one-eighth of the original text¹¹.

The portions of the story we do have are recounted entirely by first-person narrator Encolpius. His exact identity is unclear. We know that he is well-educated, but not able to use this education to keep himself out of trouble¹². What we have of the story is set in one of the Grecian cities of Southern Italy¹³. The story is episodic, recounting the various troubles Encolpius encounters.

The *Codex Traguriensis*, the manuscript on which I focus, contains only one episode, known as the *Cena Trimalchionis* or 'Feast of Trimalchio'. This episode focuses on a lavish banquet at the home of Trimalchio, a freedman from Asia (*Satyricon* 75.10¹⁴) who becomes incredibly wealthy by shipping wine (76.03). Though there are many guests at the banquet, including Encolpius, the conversation "is dominated by"¹⁵ Trimalchio and his freedman friends. The tension at the banquet is the juxtaposition of luxury and crassness. Everything is excessive: the food, the performances, and certainly the host, who is carried into the banquet wearing a napkin that alludes to senatorial

¹⁰ Conte (1994) 453.

¹¹ Walsh (1996) xvi.

¹² Courtney (2001) 50.

¹³ Smith (1975) xviii.

¹⁴ The *Satyricon* is traditionally cited with sections and subsections in the format (section.subsection).

¹⁵ Conte (1994) 457.

red (32.01-02). Even the bookkeeper has a slave to wash his clothes (30.08). Conte calls the banquet a “theatrical display of riches and bad taste”¹⁶.

Conte credits realism as the most original and striking part of the *Satyricon*, especially in the *Cena Trimalchionis*, citing the linguistic representation of the freedmen as one of the realistic elements¹⁷. The realism of the text is debatable; Conte is on surer ground with his earlier assertion that Petronius’ “artistic aim” is to “bring this low stratum [of society] into the spotlight”¹⁸. We can’t know whether this was true for the entire text, but all indications suggest that the *Satyricon*’s “lecherous happenings” were focused on the underbelly of the Roman social order.

2.1.2 Petronius

Many manuscripts of the *Satyricon* are labeled as *Petronii Arbitri Satyricon*, ‘The *Satyricon* of Petronius Arbiter’, and to that same name, many other quotes are attributed in the third to sixth centuries¹⁹. Thus we assume that this Petronius Arbiter is the author of the *Satyricon*.

However, identifying his actual identity is more complicated than that. Frequently, for reasons discussed below, he is connected with the T. Petronius²⁰ in Tacitus (*Annals* 16.17; 16.18.1). Tacitus recounts the memorable story of a formal

¹⁶ Conte (1994) 457.

¹⁷ Conte (1994) 462.

¹⁸ Conte (1994) 456.

¹⁹ Courtney (2001) 7.

²⁰ The praenomen is debated, but for an explanation of why T. is preferable, see Rose (1971) 47-49 or Courtney (2001) 5-6.

consul and intimate courtier of Nero's, given the title *arbiter elegantiae* for his excellent taste, forced by Nero to commit suicide. Petronius does so in high style over a luxurious banquet with his companions while discussing *levia carmina et facilis versus* 'light songs and pleasant verses' (Tacitus *Annals* 16.19).

There are many reasons to conflate the man described by Tacitus with the author of the *Satyricon*. Most obvious is the title of *arbiter* attributed to both men. Although initially striking, this connection would be more noteworthy if the phrase *elegantiae arbiter* didn't come from Tacitus²¹. There is no evidence that Tacitus didn't get the word *arbiter* from the *Satyricon*, which creates the possibility that he used the text to color his portrayal of his Petronius²². Conte stresses this point, because Petronius's personality in Tacitus is one of the traditional arguments for the authorship of T. Petronius.

Courtney explains that the "mental picture" of the author of the *Satyricon* is very similar to Tacitus' description²³. Both men seem to have possessed "open-mindedness, a sharp critical eye, disillusion, a sense of mystery, not to mention, of course, an aristocratic literary culture"²⁴. However, if Tacitus used the *Satyricon* as a model for his portrayal, the similarity no longer supports the idea that the two men were historically the same, just that Tacitus had conflated them. Despite the lack of

²¹ Rose (1971) 38.

²² Conte (1994) 455.

²³ Courtney (2001) 9.

²⁴ Conte (1994) 455.

“explicit identification”²⁵ connecting Tacitus’ Petronius and the Petronius of the *Satyricon*, they are generally accepted to be the same man, for lack of any evidence to the contrary.

Even accepting that the Neronian courtier is the author of the *Satyricon*, it is difficult to pinpoint which Petronius is the Petronius Arbiter credited with writing the *Satyricon*. The Petronian clan produced many men of note during Nero’s reign. However, Rose attempts to create an identification around Petronius’ consulship. Tacitus says Petronius only joined Nero’s circle after his consulship, which puts the estimated consulship in the early 60s AD. Another Petronius, T. Petronius Niger, who has the advantage of sharing the same praenomen with the Tacitean figure, had a consulship around 61 AD²⁶.

This identification is by no means definite, but it is a likely possibility. Rose defends this claim against the accusation that Petronius is not given a cognomen in Tacitus or in Pliny’s *Natural History*, which recounts a similar story about Petronius. Critics say that if the Petronius in question was T. Petronius Niger, the cognomen ‘Niger’ would appear in Tacitus²⁷. Rose argues that it is not necessarily a problem that no source lists the courtier Petronius’s cognomen, since Tacitus and Pliny have both been known to eliminate cognomina²⁸ with a descriptive adjective. Courtney disputes the identification, pointing out that the list on which Petronius’ name appears is unlike

²⁵ Conte (1994) 454.

²⁶ Rose (1971) 50.

²⁷ Courtney (2001) 7, footnote 1.

²⁸ Rose (1971) 51-54.

the examples Rose cites of eliminated cognomina, although he does acknowledge that Rose's theory is still a very popular one²⁹. It is not particularly relevant to my thesis which man is correct. It suffices to point out that a conflation of Tacitus' Petronius and the author of the *Satyricon* is the current *communis opinio*, but that there is little consensus about any further identification.

2.1.3 Rome in the Early Empire³⁰

The *Satyricon* reflects the economic developments of the early Roman Empire. The *pax Romana* allowed economic growth, especially in trade. Many goods were now produced within a "factory" system "on a large scale and for wide distribution." The Western provinces also became more urbanized and developed competitive trade in wine and oil, which supports Rose's assertion that Trimalchio's profit from wine must have happened before this really took root. Trade was mostly a source of profit for the equestrians and foreigners, including freedmen. The senatorial class continued to make their money from farms rather than industry. Trimalchio's vast estates (*Satyricon* 53) also suggest another shift, the concentration of land. Imperial land confiscation was common, and land in general was held in larger quantities by fewer people.

Politically, Neronian Rome was much more tumultuous. The old senatorial families were winnowed substantially by proscriptions in the late Republic and early Empire; many old families disappeared entirely. Despite early promises of peace and

²⁹ Courtney (2001) 7, footnote 1.

³⁰ Scullard (1963) 315-347

liberty, Nero's reign was also quite violent. He resumed treason trials in 62 AD. In 65, Nero was almost killed by a rebellion typically named for C. Calpurnius Piso, one of its ringleaders. Nero killed nineteen people in revenge, and many more in the subsequent paranoia-inspired purge. Petronius himself was forced to commit suicide in the aftermath of this rebellion.

2.1.4 *Neronian Influence on the Satyricon*

There are many reasons to assume that the *Satyricon* is written and set in Neronian times³¹, mostly based on internal evidence. Many arguments are based on small references in the text to contemporary events and people, such as the gladiator Petraites, admired by Trimalchio (52.3, 71.6) in the text and very popular in southern Italy during Nero's reign³².

Features of the economy in the novel also imply a Neronian dating. Rose's broadest claim is that mocking Trimalchio's vulgar taste and excessive wealth would only make sense "at a time when cultured Romans thought of such people as vulgar upstarts", which he claims is not as markedly true in later times³³. Most are smaller, more detailed, claims. For instance, Rose says that Trimalchio's success as a wine trader points to a first century dating, because the sale of Italian wine was no longer

³¹ Rose (1971) is arguing against dating in Antontine times, the comparative reference for all statements in this section.

³² Rose (1971) 21; Rose has a list of these names and events, pp. 21-30.

³³ Rose (1971) 31.

profitable in the second century³⁴. Trimalchio would also not have needed to stud his gold rings with iron (32.03) in the Antonine period, when the privilege to wear a gold ring was bestowed quite liberally³⁵. There is not *proof* in any of these claims, but circumstantial evidence is solid enough that a Neronian dating of the *Satyricon* is the dominant position.

If the authorship of Tacitus' T. Petronius, a member of Nero's inner circle, and the Neronian date are both accepted, the question of allusion becomes inevitable. To what extent is the *Satyricon* a satire of the imperial court or of Nero himself? Conte credits the general emphasis on lower social classes as a nod to Nero's taste for seedy nightlife, brawls, and brothels³⁶. Rose agrees that there is probably some allusion in the text. Parallels to Nero are too great and frequent to be ignored³⁷, especially in the *Cena Trimalchionis*, where Trimalchio is likely intended to resemble Nero to a certain extent. However, Rose argues that allusion does not necessarily indicate parody. If Trimalchio has some habits of Nero, it can be interpreted a reflection on Trimalchio's desire to be the emperor himself, rather than any statement about Nero's taste³⁸. Most importantly, Rose urges caution against taking the allusions (many of which are unlikely and strained) at face value³⁹.

³⁴ Rose (1971) 31.

³⁵ Rose (1971) 34.

³⁶ Conte (1994) 456.

³⁷ Rose (1971) 77; Rose has an appendix of possible allusions to Nero, pp. 82-83.

³⁸ Rose (1971) 76-77.

³⁹ Rose (1971) 77.

2.2 The Manuscript Tradition of the *Satyricon*

Producing an accurate rendering of an ancient text is divided into two processes, *recension* and *emendation*. The goal of recension is to choose the “most trustworthy documentary evidence”⁴⁰ from the manuscripts. Recension relies on having a strong sense of the worth of each manuscript, which involves many steps of analysis. At each step of recension, the *Satyricon* proves tricky. Therefore, the burden for producing a good text falls heavily on emendation. Emendation takes place after recension, when no manuscript has a satisfactory reading, and a modern editor has to make his or her own corrections.

The first step in recension is that the manuscripts in question all have to be analyzed and determined not to be forgeries. Authenticity was hotly contested for the *Codex Traguriensis* (also known as H) when it was first revealed to the public in 1664⁴¹. Within two years, two dissertations were written arguing that the new text was a forgery. Wagenseil (1666) claims that the author must have known modern Italian because he uses “verba barbara, monstrosa, ne humana quidem”⁴² Valois (1666) writes very similar criticism, claiming that the author of the codex must have known French. Critics of Valois and Wagenseil, notably Pierre Petit and Giovanni Lucio, quickly came to the defense of the *Codex Traguriensis* and show that the similarity to modern French and Italian can be explained by the common nature of the text, namely the Proto-Romance or vulgar spellings, words, and forms. However, the objections of Valois and

⁴⁰ F. Hall (1913) 108.

⁴¹ Boyce (1990) 14-19.

⁴² Boyce (1990) 15-16 – “barbarous words, monstrous, hardly even human.”

Wagenseil say much about the problems faced by a modern interpreter of the text.

Romance scribes spelling phonetically create the same kind of deviant forms that an author imitating vulgar speech would make, since the pronunciation the author mimics eventually became reflected in the Romance languages spoken by the scribes. While the validity of the text has stood largely unchallenged since Lucio's defense, the same arguments used in the seventeenth-century debate are still relevant to modern scholarship on the text of the *Codex Traguriensis*.

After the authenticity of all manuscripts is ascertained, the age of the manuscripts is determined. Physical tests on the materials can help with this. Old manuscripts are generally assumed to be truer to the original text, unless it can be shown that they have been corrupted. It is also important to determine the relationships that the genuine manuscripts have to each other. Manuscripts that can be clearly traced to another extant manuscript are discarded from consideration because they have no "independent value"⁴³ – there is no evidence of the original text that isn't contained in the source manuscript. Furthermore, grouping the manuscripts and predicting their ancestor allows us to see whether multiple manuscripts have the same reading because that reading is original, or whether they just derive from a common flawed manuscript. When tracing the history of a manuscript, confluences are sometimes discovered: manuscripts that pull their material from two different older

⁴³ Reynolds & Wilson (1991) 207.

manuscripts. That's important because one of those sources may be reliable and the other corrupt, which affects the validity of the new manuscript.

Textual judgments based on the relationships between the various manuscripts of the *Satyricon* are difficult, because the relationship is not definitively established⁴⁴. There were twenty-one extant manuscripts of the *Satyricon* as of 1863⁴⁵. These manuscripts fall into four categories. The *excerpta vulgaria* (also known as O) fragments are the most limited, short passages from 1-26.5 and 80.9-137.9. Section 55 is the only piece of the *Cena Trimalchionis* present in the O manuscripts. The L excerpts, which Smith refers to as “Longer excerpts”⁴⁶ include larger chunks, including the beginning of the *Cena* (up to section 37.5). The majority of our surviving text of the *Cena Trimalchionis* (26.7 – 78.8) comes from the H fragment. The *Florilegium Gallicium* excerpts also contain some pieces of the *Cena Trimalchionis*, but the fragments are scattered throughout the text, so I do not list their exact location. The various divisions of the text (section, manuscript, and book) are as follows in figure 2.1.

⁴⁴ Reynolds (1983) 295-300

⁴⁵ Beck (1863) 1.

⁴⁶ Smith (1975) xxii

Figure 2.1 – the <i>Satyricon</i> broken down ⁴⁷			
Section	Title	Book ⁴⁸	Contained in manuscript collections ⁴⁹ :
1 – 26.6		14	<i>Excerpta vulgaria</i> (O), “Longer excerpts” (L)
26.7 – 37.5	<i>Cena Trimalchionis</i>	15	<i>Codex Traguriensis</i> (H), “Longer excerpts” (L)
55			<i>Codex Traguriensis</i> (H), <i>Excerpta vulgaria</i> (O)
56 – 78			<i>Codex Traguriensis</i> (H)
79 – 80.9		16	
80.9 – 137.9			<i>Excerpta vulgaria</i> (O)
137 – 141			

Though the exact relationship of the manuscripts is unsure, there is some evidence that H is an old text. First, the text is more complete than either O or L, and therefore cannot be derived from them. Furthermore, Gaselee cites the long list of words missing word breaks, such as <acrienis> for the two-word phrase AC RIENES or incorrectly broken, such as <abbas secrevit> for AB ASSE CREVIT⁵⁰. He also points out poor punctuation that was probably inserted without much care. Both of these patterns point to a predecessor that predated punctuation and word divisions because the scribe would not have made so many errors in punctuation and word division if his original had been marked for these things⁵¹. Here there is a conflict. On the one hand, the text

⁴⁷ This chart only gives a brief summary of the textual divisions. For a full representation, see Beck (1863) 32-40

⁴⁸ Smith (1975) xv. For full discussion and other possible book divisions, see Smith (1975) xiv-xv

⁴⁹ Smith (1975) xxii.

⁵⁰ Gaselee (1915) 10.

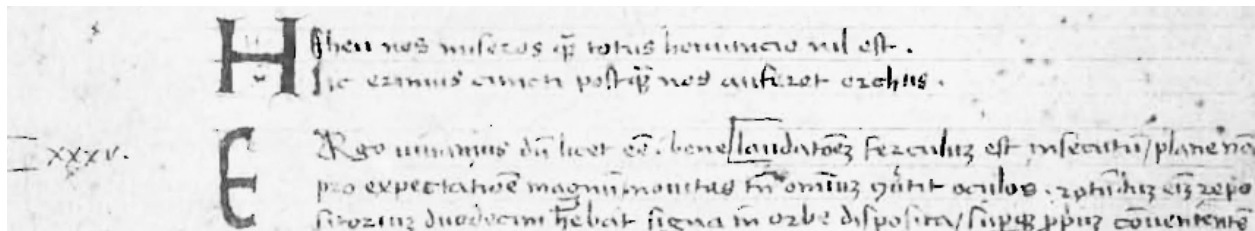
⁵¹ Gaselee (1915) 10-11. F. Hall (1913) also cites these as characteristics of a text copied without word breaks and punctuation, pp. 172-174.

is very likely old, and that's a point in its favor according to Hall's hierarchy⁵². On the other hand, the text is full of deviant forms absent in the O and L manuscript collections, many of which are suspected of being scribal errors.

While age and authenticity have both caused the recension process for the *Satyricon* to be complicated, neither is the primary reason that recension is unsatisfactory. Recension can never be wholly successful in the *Satyricon*, because recension requires having multiple readings to choose from. However, almost all of the *Cena Trimalchionis* is solely dependent on the *Codex Traguriensis*.

The *Codex Traguriensis* is a small leather-bound folio, labeled inside as “Anc. Des. Latins. A. 7989. Petronius... 7989. Codex emptus Romane an. 1703 Reg. 5623”. The text is written in what Beck calls a “fifteenth-century Italian hand”⁵³ (see figure 2.2).

Figure 2.2⁵⁴



Marino Statileo found the *codex* in Tragurium (modern Trogir), Dalmatia, in the library of Niccolo Cippico in the seventeenth century. This manuscript may well have

⁵² F. Hall (1913) 128.

⁵³ Beck (1863) 2.

⁵⁴ Gaselee (1915). Gaselee's page numbers for the facsimile are not labeled, but the page is a facsimile of page 208, and it marked as such.

been commissioned by Poggio Bracciolini. Poggio wrote to Niccolo Niccoli in 1423, the same year written on the manuscript, requesting that the latter send him the copy of Petronius which "curavi transcribendum modo, cum illac iter feci"⁵⁵. This also gives us additional information about the script. Niccolo and Poggio were both associated with the Humanist script movement, so if the script was commissioned by Poggio, the script is probably Humanist⁵⁶. Humanist scripts were in fact Italian, so this would match Beck's assessment.

The *Codex Traguriensis* does not just contain the *Cena Trimalchionis*. The book begins with work of Tibullus, Propertius, and Catullus, and it ends with the poem "Moretum" and Claudan's poem "Phoenice". Sandwiched between the beginning and the end are two different portions of the *Satyricon*. Pages 185-205 of the manuscript cover the *excerpta vulgaria* (O) fragments. Pages 206-228 cover the *Cena Trimalchionis*. I do not compare the errors contained in the *Cena Trimalchionis* sections with trends in the rest of the text. Saying that the errors were scribal is not the same thing as saying that the errors were created by the specific scribe who created the text for Poggio. The errors could remain from the manuscripts from which he copied. In fact, it is quite possible to have a text widely varied in quality because it pulled from different source material⁵⁷. It is likely that even the two portions of the *Satyricon* in the *Codex Traguriensis* were taken from different manuscripts. Gaselee describes the texts as

⁵⁵ Gaselee (1915) 9 – "I just took care to have this transcribed, when I had journeyed there."

⁵⁶ Brown (1990) 126.

⁵⁷ F. Hall (1913) 129.

having very different character, though he doesn't explain exactly what he means by that⁵⁸. Section 55 is the only portion of the *Cena Trimalchionis* shared between the two manuscripts, and they contain vastly different texts, as shown below in Figure 2.3⁵⁹. Therefore, they are very likely derived from different sources.

Figure 2.3

<i>Pars Prior.</i>	<i>Pars Posterior.</i>
Comprobamus factum varioque sermone garrimus et poetarum cepit esse mentio. diuque summa carminis penes mopsum trachem memorata est donec Trimalchio rogo inquit magister quid putes inter cicronem et publium interesse. ego alterum puto disertiore esse alterum honestiorem. quid enim his melius dici potest?	Comprobamus nos factum et quam in precipiti res humane essent vario sermone garrimus. ita inquit trimalchio non oportet hunc casum sine inscriptione transire statimque codicillos poposcit et non diu cogitatione distorta hec recitavit Quod non expectes ex transverso fit. Et super nos fortuna negotia curat (Disticon trimalchionis est cum elego suo) (Quare da nobis vina falerna puer) Ab hoc epigramate cepit poetarum esse mentio diuque summa carminis penes mopsum trachem memorata est. donec trimalchio rogo inquit magister quid putas inter cicronem et publium interesse. ego alterum puto disertiore fuisse alterum honestiorem. quid enim his melius dici potest.

Where did the mysterious *Cena* manuscript come from that separated it so thoroughly from the rest of the manuscript tradition of the *Satyricon*? Here again Poggio's letters offer a potential insight. Poggio writes to Niccolo Niccoli in 1420 about a text of the *Satyricon* while in London, and his 1423 letter references the "particulum Petronii quas misi tibi ex Brittania"⁶⁰. If he obtained the predecessor of the H manuscript in England, that would explain how a 12th century English monk could quote from the section 51 of the *Cena Trimalchionis* before the rest of Europe was

⁵⁸ Gaselee (1915) 1.

⁵⁹ Beck (1863) 3.

⁶⁰ Gaselee (1990) 9-10 - "the piece of Petronius which I sent to you from Britain."

exposed to it⁶¹. It could also explain why it never became part of the rest of the manuscript tradition of the *Satyricon*.

Gaselee offers his assessment of the scribe the Codex Traguriensis:

These seem to me to form a testimony to the good faith and stupidity of the scribe, two very valuable qualities in copyists. A man who would write down half a word, because it had been wrongly divided in the text... cannot have been very clever; and that he was honest can be inferred from the way in which he repeated with surprise what seemed to him to be ungrammatical forms... without making any attempt to alter them⁶².

Stupidity seems like a quality that should not be good, but in this case, it is extremely valuable. Scribes copying the manuscripts often correct errors as they run across them, either intentionally or just by instinct. However, this means that scribes of the *Satyricon* run the risk of accidentally eliminating *deliberate* misspellings. The scribe of H is much more dutiful about copying down forms that seem spurious. That he did this intentionally is shown by the occasions where he writes the correct form in the margin, but the incorrect form in the text (Figure 2.4⁶³).

Figure 2.4

coccinea	num potabant : 7 cum plurimum rixantes effunderent
palectice	lutus <u>coccina</u> causa <u>polectice</u> impositus est, <u>praecede</u>
	masio, in quo deliciae eius uehebantur, puer uetulus
simphoniaciur	auferetur ad caput eius, cum minimis <u>symphoniacus</u>

⁶¹ Smith (1975) xxiii

⁶² Gaselee (1990) 15.

⁶³ Gaselee (1915). Page not numbered, but this is the transcription of page 206 of the manuscript and is numbered accordingly.

While the dutiful copying of the scribe is useful in its potential preservation of otherwise lost spelling deviations, the many genuine errors create a heavy burden on the process of emendation. Successfully eliminating scribal error from the text involves understanding the types of errors that scribes make, so that the transcriptional probability⁶⁴ (the likelihood that a given error would appear in the text) of any potential deviation can be assessed⁶⁵. Scribal errors can be categorized according to their cause, visual or psychological. Visual errors are caused entirely by tricks of the eye – an example of this would be skipping or repeating a portion of the text by skipping to another instance of the same word. Psychological errors are caused by some sort of thought on the part of the scribe, such as when a noun's case is changed because the scribe thought that their correction made more sense in the sentence. Most errors have a psychological aspect, because reading happens on a word and clause basis, not a letter-by-letter basis.

When deciding which errors to consider in this project, I eliminated purely visual errors, such as confusion of similar letters. For instance, the *Codex Traguriensis* has <cancer> for CARCER (42.7) and <divo> for CLIVO (47.8). These mistakes don't contain any interesting linguistic information. For the same reason, I ignore errors that are purely orthographic conventions, such as Latinizing Greek spellings. Instead, I focus on what Hall calls "mistakes due to change in pronunciation"⁶⁶. These errors are psychological, because as the scribe's eye reads the word, his brain pronounces it, and

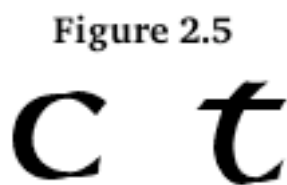
⁶⁴ F. Hall (1913) 151.

⁶⁵ F. Hall (1913) 150-198, particularly 150-162.

⁶⁶ F. Hall (1913) 183-184.

his hand writes it down as it is pronounced in his head. Sometimes, this can also reflect a change in spelling. Romance languages developed their own orthographic systems that were (at the time) phonetically accurate. For instance, classical Latin TERTIO is spelled in modern Spanish as *tercio*, which reflects the pronunciation of Latin TERTIO at the time Spanish spelling developed in the ninth century⁶⁷. The scribes who copied manuscripts were what Roger Wright calls "bigraphic"; they knew two *scripta*⁶⁸ (spelling systems) for what was still largely considered one language⁶⁹. Because they conceptualized these different spellings as the same word, it was easy for the spelling systems to bleed into one another⁷⁰.

Even when focusing solely on psychological errors, it is important to keep in mind common visual mistakes. The spelling <tercio>, referenced above, is relevant because palatalization in the second to fourth century made <ci> and <ti> homophonic, and thus misspellings become common. However, <c> and <t> are also visually similar in uncial and many later fonts (Figure 2.5⁷¹), which indicates the error might be visual rather than aural⁷².



⁶⁷ Wright (2002) 150

⁶⁸ Wright (2002) 147

⁶⁹ Wright (2002) 148-149.

⁷⁰ Wright (2002) 282-294 describes one example of the bleed between writing systems, in this case Latin spelling bleeding into texts written in the Romance system.

⁷¹ Brown (1990) 25

⁷² F. Hall (1913) 160.

Beck mentions that <c> and <t> are very difficult to distinguish in some manuscripts of the *Satyricon*⁷³. That could undermine the case for an error due to pronunciation. For palatalization, visual error is a fairly weak argument because almost every instance of <c> for expected <t> in the *Cena Trimalchionis* happens before <i>, the environment of the phonetic shift. The only exception is <constreinum> for TONSTREINUM. If the visual error were the primary source of confusion, we would expect the confusion to be no commoner before <i> than before <o> or in any other environment.

Modern editors and commentators have done very different things with this theoretical framework. Almost all agree that a certain amount of emendation is necessary. As Boyce says, “the original manuscripts [...] contain many obvious errors”⁷⁴ and the Codex Traguriensis is particularly guilty of “poor transmission”⁷⁵. However, because almost all of them also believe that Petronius deliberately used spelling deviations to represent vulgar speech, they also preserve a certain amount of deviation.

The most popular modern text is edited by Konrad Müller⁷⁶. There are those who are very satisfied with Müller’s edition. Reynolds praises Müller for his “lucidity and comprehensiveness”⁷⁷ and says that no edition of the text before Müller can be trusted. Smith⁷⁸ is satisfied enough with the text that he chooses to use it for his commentary.

⁷³ Beck (1863) iv.

⁷⁴ Boyce (1990) 31.

⁷⁵ Boyce (1990) 31.

⁷⁶ Müller (1961).

⁷⁷ Reynolds (1983) 297.

⁷⁸ Smith (1975).

However, Boyce characterizes Müller's emendations as excessive and often "arbitrary"⁷⁹. Boyce favors many deviant readings cleaned up by Müller. Corbett⁸⁰ shares the sentiment, offering many instances where Müller's edits are misguided. As Boyce's very recent book shows, this is still a very active debate. This project may serve as an additional tool to analyze the deviant forms in the *Cena Trimalchionis*.

2.3 – Cultural Context of Vulgar Latin in the *Satyricon*

2.3.1 Freedmen in Rome and in the *Satyricon*

The majority of "low-class" characters in the *Cena Trimalchionis* are freedmen. Separating what Petronius says about freedmen from the reality of freedmen in Rome is important, but often difficult. Much of the literature about Roman freedmen seeks either to map Petronius onto their own view of freedmen, or more damaging, to map freedmen onto the picture painted by Petronius. Garnsey describes only a few of the modern attempts to explain Trimalchio as a typical or atypical freedman⁸¹.

However, this is not the only source of evidence available about freedmen. I focus on the following sources because they base their findings largely on primary evidence. Shelton is exclusively a collection of testamentary evidence, including laws⁸², inscriptions⁸³, and quotes from Pliny⁸⁴. Garnsey mostly cites non-literary primary

⁷⁹ Boyce (1990) 31.

⁸⁰ Corbett (1979).

⁸¹ Garnsey (1998) 135-136.

⁸² Shelton (1998) 190, entry 231.

⁸³ Shelton (1998) 197-198, entries 236-237; 239-240.

evidence: legal documents⁸⁵, but also trade information⁸⁶. Kleijwegt relies on Pompeian campaign posters⁸⁷, funerary monuments left by freedmen⁸⁸, and records of public gifts from freedmen⁸⁹.

Slaves in Rome were freed for a variety of reasons. Some slaves were freed to demonstrate the wealth and generosity of the patron. However, it was also common to free slaves so that they wouldn't give incriminating testimony under torture, as Milo did before his trial for the murder of Publius Clodius Pulcher (Cicero *Pro Milone* 57, 58). Slaves could also buy their freedom, such as Publius Decimius Eros Merula did for 50,000 sesterces (*CIL* 11.5400). These explanations seek to answer why an individual owner might free his slaves. However, there were also larger social reasons for Rome's class of freedmen. Roman society used the existence of freedmen to justify the notion that slaves were kept enslaved by their own poor fortune and character. By maintaining a class of freedmen, they were able to claim that slaves who were worthy enough would be freed. This in turn prevented slaves from forming a unified group, because slaves would rather have their master's favor in hopes of being freed⁹⁰. In reality, being freed depended much more on the type of master than the character of the slave. Aristocrats were able to free large quantities of slaves without economic pressure. In

⁸⁴ Shelton (1998) 199, entry 243.

⁸⁵ Garnsey (1998) 39.

⁸⁶ Garnsey (1998) 31-37.

⁸⁷ Kleijwegt (2006) 102-103.

⁸⁸ Kleijwegt (2006) 94-100.

⁸⁹ Kleijwegt (2006) 106-109.

⁹⁰ Mouritsen (2011) 203.

contrast, rural slaves and slaves in small families were less likely to be freed, because they served essential roles in the household⁹¹.

There were three processes by which slaves were freed: *manumissio vindicta* ‘manumission by the rod’, *manumissio censu* ‘manumission by census’, and *manumissio testamento*⁹² ‘manumission by will’. In *manumissio vindicta*, the slave's master participated in a "mock trial" before a magistrate. A Roman citizen would assert the freedom of the slave, which the master would not contest. Afterward, the Roman citizen would proclaim the slave free by touching him with a rod and proclaiming "hunc ego hominem liberum esse aio ex iure Quiritium"⁹³. Finally, the magistrate would confirm this new free status. In *manumissio censu*, the slave was merely entered as a free citizen into the census. *Manumissio testamento* freed the slave by the statement from his master: [NAME] *servus meus liber esto*⁹⁴, ‘may my slave, [NAME], be free’.

Upon being freed, a slave in Rome became a Roman citizen. However, freedmen were limited by several restrictions. First, freedmen were in debt to their former masters. They were required to demonstrate *obsequium*, proper obedience and humility, and *operae*, a service commitment often satisfied through a certain number of days of labor. This was one dimension of the larger Roman clientele system, in which client and patron had certain obligations to each other. The rights of freedmen in this

⁹¹ Mouritsen (2011) 205.

⁹² Mouritsen (2011) 11-12.

⁹³ Mouritsen (2011) 11.

⁹⁴ Mouritsen (2011) 12.

arrangement (for example, their *operae* couldn't interfere with their ability to support themselves) were codified in the Digest of Laws (*CIL* 11.5400, *ILS* 7812).

Freed slaves had limited possibilities in the Roman social order. They couldn't serve in the army, join any prestigious state priesthood except the Augustales, or be a member of the equestrian order, even if they met the property qualifications. This limited ambitious freedmen to business; it is therefore no surprise that Trimalchio made his money as a merchant (*Satyricon* 76).

Despite these limitations, Kleiwegt stresses what he calls the "corporate identity" of wealthy groups of freedmen, *libertini* who joined freedmen's guilds⁹⁵. He points to political advertisements where a *princeps liberorum* endorses a candidate⁹⁶ and to money given by a freedman for a public feast that singled out *libertini* as one of the groups to receive special benefits⁹⁷. For Kleiwegt, this all points to the conclusion that "*libertini* were not ashamed of their past servility [...] they were proud of having escaped slavery"⁹⁸. One may think of Hermeros in Petronius: "I made my way successfully – and that's real success! Being born a free man is as easy as saying 'Boo'"⁹⁹ (*Satyricon* 57).

There are other signs of wealthy freedmen, such as freedmen who donated money to cities or built themselves expensive memorials. Since children of freedmen

⁹⁵ Kleiwegt (2006) 101-102.

⁹⁶ Kleiwegt (2006) 103.

⁹⁷ Kleiwegt (2006) 109.

⁹⁸ Kleiwegt (2006) 111.

⁹⁹ translation by Shelton (1998) 194.

had full citizen rights, including the right to run for office, we also have evidence of freedmen funding their sons' political careers¹⁰⁰.

Men such as those described above are the image of freedmen that we see in the *Satyricon*, proud and wealthy businessmen. In addition to their wealth, these freedmen also show no signs of being under the thumb of their patrons. There is some evidence that real freedmen lived with no or limited interference from their patrons. Garnsey identifies a whole class of freedmen who were economically and juridically free, with evidence taken from legal documents¹⁰¹.

However, this is not the picture that the ancient literary sources paint, nor is it the common assumption about the relationship between freedman and patron. The literary references to freedmen, which have the bias of being written largely by the patrons, stress the dependence of freedmen and their reliance on their patrons. For many freedmen, this was undoubtedly the case. Garnsey stresses that although there were many freedmen whose patrons did not choose to exercise their control very strongly, the freedman was largely at the mercy of their former master in this¹⁰².

Petronius' account of the freedmen is often unsympathetic. The primary focus is on the gaudiness of the freedmen, particularly Trimalchio, which reflects a perception of wealthy freedmen as ridiculous braggarts. Under Claudius and Nero, there were a few freedmen connected to the ruling family who achieved positions of great power in

¹⁰⁰ Garnsey (1998) 29.

¹⁰¹ Garnsey (1998) 37.

¹⁰² Garnsey (1998) 36.

the Empire¹⁰³. These men, and wealthy freedmen in general stirred up great resentment, as they often possessed more status and wealth than many free Romans, not just the poor masses but even some men of status and education (Martial *Epigrams* 10.76).

However, Petronius also shows some nuance and sympathy in his portrayal. When Ascyrtos mocks the freedmen, a sentiment the reader is supposed to share, Hermeros launches into a vitriolic counter-attack, quoted above. Kleijwegt makes the point that his proud defense could be a source of amusement for the freeborn reader, but it also has a sincere ring of pride that seems hard to ignore.¹⁰⁴ Just as Petronius' linguistic interpretation of the freedmen is generally true to life, his cultural representation also attempts to do some justice to his targets.

2.3.2 Eye Dialect and Elite vs. Subelite Language

Petronius' use of spelling deviations is related to the wider phenomenon of eye dialect¹⁰⁵. Like Petronius' misspellings, eye dialect is the use of deliberately-employed spelling deviations that create the illusion of a (usually low-register) dialect. However, eye dialect has a further restriction: unlike proper dialect representation, the word being represented by the deviant form has the same pronunciation as its correct counterpart. For example, spelling 'front' as <frunt> is eye dialect, because 'front' is standardly pronounced [frʌnt], the same pronunciation suggested by the eye dialect

¹⁰³ Grant (1992) 118.

¹⁰⁴ Kleijwegt (2006) 101.

¹⁰⁵ Term coined by Krapp (1925).

spelling <frunt>¹⁰⁶. In contrast, spelling ‘bed’ as <bayud> would *not* be eye dialect, because the standard pronunciation of ‘bed’ is not [beɪɪd].

The issue of eye dialect raises interesting implications. Since eye dialect occurs when the educated writer actually uses the accent with which he endows the low-class character, it is possible that some of the misspellings Petronius gives exclusively to the freedmen are actually part of his own dialect. Conventionally, it is assumed that Petronius and the well-educated elite of early Rome did not speak with vulgar Latin pronunciation, because it is impossible to detect vulgarisms in their texts. However, some changes had certainly taken full effect in Petronius’ time, such as the loss of the <h> which happened sometime circa 27 AD¹⁰⁷. Furthermore, elite Latin, a very narrow and reduced (in terms of acceptable variant forms) form of the language, was only created and standardized in the late Republic/early Empire, and it isn’t clear to what extent it ever affected speech¹⁰⁸. Roger Wright emphatically defends that in the later Empire, there were not two different pronunciations of Latin (common and elite), but rather that the whole continental empire spoke the Latin that would eventually become the Romance languages¹⁰⁹.

It need not be that Petronius’ dialect had all the vulgarisms he bestowed on the freedmen or none of them. Authors may employ both eye dialect and genuine dialect

¹⁰⁶ Krapp (1925)

¹⁰⁷ Agard (1984) 51.

¹⁰⁸ Clackson & Harrocks (2007) 183-228, particularly 183-189 and 227-228.

¹⁰⁹ Wright (2002) 345: “The linguistic consequences of this kind of sociolinguistic reconstruction are as follows: that in the early Middle Ages everyone in particular area used more or less the same phonetic system as each other, along the same scale of patterned sociolinguistic variation, such that listeners to texts could recognize the words from the pronunciations of the readers.”

when writing. In fact, this approach is common when representing a dialogue because “it is better to use eye dialect than to burden the reader with outlandish forms intended to represent all the intricacies of regional speech or substandard speech”¹¹⁰.

Nonstandard spelling involves what Macaulay calls “code noise”¹¹¹, the extra difficulty for a reader to decipher the text. Eye dialect has less code noise than genuine dialect pronunciation, because once the word has been pronounced, it can be immediately understood. Therefore, authors will use some examples of genuine dialectal pronunciation, supplemented by eye dialect. Petronius could be doing the same.

2.3.3 *Complications of Dividing the Text Along Class Lines*

Because the variants are meant to give a low-class flavor, past analyses of the language in the *Satyricon* have divided the text between well-educated characters – including the narrator, Encolpius – and low-class characters, such as Trimalchio and his fellow freedmen. This distinction makes two unwarranted assumptions: first, that Petronius never intended well-educated characters to use irregular forms, and more significantly, that we can safely distinguish high- and low-class characters at all.

Knocking down the first assumption is Dell’Era (1970). Dell’Era’s theory revolves around the idea of *mimetica*, that well-educated characters use vulgarisms to imitate low-class characters when in their presence¹¹². As support for this theory, his computer-aided analysis shows that even though only one third of Encolpius’ total speech occurs

¹¹⁰ Bowdre (1964) 15.

¹¹¹ Macaulay (1991) 281.

¹¹² Boyce (1990) 31, quoting Dell’Era (1970) 24.

in the *Cena Trimalchionis*, when he is surrounded by the freedmen, this section of the text contains two thirds of the deviant forms in Encolpius' speech¹¹³.

Courtney (2001)¹¹⁴ goes one step farther, questioning the idea that there can be clear high/low-class judgments. Courtney suggests that Encolpius, Giton, and Ascyltos are themselves freedmen, rather than the *scholastici* (men of learning, scholars) they are often thought to be. He calls them part of "the large class of educated freedmen"¹¹⁵, which still serves as an education barrier between the narrator and Trimalchio's friends. However, this boundary is much finer, and it is harder to insist that we can separate the language of these two groups of freedmen.

Courtney disputes many textual clues that are often used to support the claim that Encolpius is a *scholasticus*. First, in *tamquam scholastici ad cenam promisimus* 'just as scholars we go to dinner' (*Satyricon* 10.6), Courtney emphasizes the *tamquam*, which allows the possibility that they are only behaving in the *manner of scholastici* rather than actually *being* *scholastici*. The second piece of evidence is *Satyricon* 81.5, *die togae virilis* 'on the day of his manly toga'. This is damning because only citizens wore togas. However, the manuscripts furnish another *tamquam*, which again allows this to be a simile rather than a statement of fact. Finally, Courtney dismisses other characters' references to the protagonists as *scholastici*, because such claims only prove that they are *perceived* this way.

¹¹³ Boyce (1990) 31, quoting Dell'Era (1970) 31.

¹¹⁴ Courtney (2001) 39-42.

¹¹⁵ Courtney (2001) 41.

Many of the clues in favor of their former slave status are small textual references, such as Ascyltos' description as *stupor liber, stupor ingenuus* (*Satyricon* 81.4), which Courtney translates as "he acquired freedom and free birth through depravity"¹¹⁶, and Giton's time in a slave-prison (*ergastulum*, 81.5). Courtney also uses more indirect evidence. He explains that slaves (of any origin) are often given significant Greek names by their masters, which may explain why so many of the characters have Greek names. Encolpius in particular is singled out as having a common slave name.

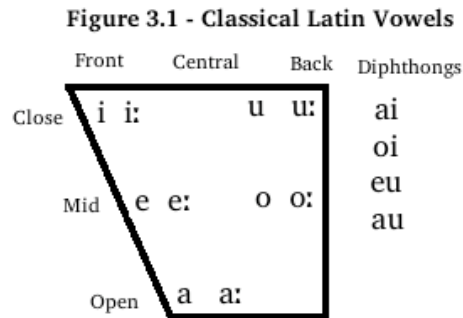
It is not my intention to prove that Courtney is correct or incorrect, but his evidence casts some doubt on the stability of the high/low-class distinction. Therefore, it makes sense for my purposes to distinguish along other lines, namely a dialogue/narrative distinction.

¹¹⁶ Courtney (2001) 41.

3. Linguistic Background

3.1 - Characteristics of Classical Latin Sound System

Classical Latin had a very traditional five-vowel distribution (figure 3.1).



The Latin distribution in the vowel space is typical of languages with five vowel qualities in that it spreads the vowels along the edges of the vowel space, where they are easiest to distinguish from one another. There is, however, an inherent instability in the vowel system in that classical Latin had phonemic length distinction. For example, [liber] ‘book’ is distinct from [li:ber] ‘free’. Such phonemic length distinctions are difficult for a language to maintain because they require speakers to distinguish between very similar sounds. It is also challenging because vowel length is still likely to undergo allophonic shifts such as lengthening before a voiced consonant (as in English [bu:z] ‘buzz’; cf [bʌs] ‘bus’, with no lengthening), thus rendering the short and long vowels even more similar.

Some Latin consonants also had phonemic length distinctions (figure 3.2), represented in spelling by a double consonant.

Figure 3.2 - Classical Latin Consonants¹¹⁷							
	<i>Bilabial</i>	<i>Labio-dental</i>	<i>Dental/Alveolar</i>	<i>Palatal</i>	<i>Velar</i>	<i>Labio-Velar</i>	<i>Glottal</i>
<i>Oral Stops</i>	p pp b		t tt d **		k kk g	k ^w g ^{w*}	
<i>Nasals</i>	m mm		n nn				
<i>Fricatives</i>		f ff	s ss				h
<i>Liquids</i>			r rr	l ll			
<i>Approximants</i>				j		w	

*It is unclear whether [d] was dental or alveolar, but evidence from Romance suggests [t] was dental

**Sydney suggests g^w based on dubious metalinguistic evidence from grammarians and along analogy with k^w. However, it is possible for a language to have only a voiceless labio-velar stop, even if they have other voiced stops.

The length distinction can be detected from Latin poetic meter, which scanned vowel quantity being the same before two different consonants as before a double consonant. Furthermore, Latin has many distinct pairs differentiated only by consonant length. The Latin words ANUS ‘old woman’ and ANNUS ‘year’ were distinguishable by length. As with the vowels, this length distinction is not unusual, but it does run the risk of being compromised because it depends solely on duration distinctions between very acoustically similar sounds.

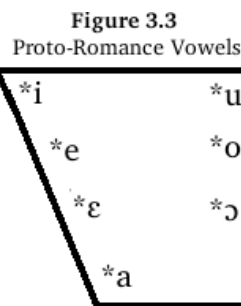
3.2 – Proto-Romance Sound System

Proto-Romance is a hypothetical language, reconstructed by linguists using data from the Romance languages. To mark that words and sounds are hypothetical, rather than actually attested, the symbol * precedes a Proto-Romance phoneme or word.

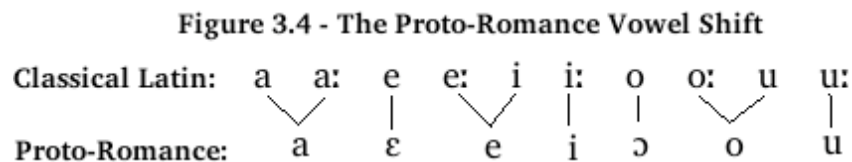
¹¹⁷ Chart created from description in Sydney (1978) 12-46.

3.2.1– General Characteristics

As stated earlier, classical Latin had five different qualities of vowel: [i], [e], [o], [u], and [a], each with a contrastive length distinction. Distinctions based only on length are unstable, because the acoustic distinction between long and short vowels is very subtle. In Proto-Romance, the length distinction completely collapsed into a quality distinction (figure 3.3).



We might have expected that when the length distinction destabilized, *e: and *e would merge at *e, *i: and *i at *i, and so on. This would also have been a natural shift, and in fact a simple merger of the long and short vowels happened in Sardinian Latin, and probably in African Latin as well¹¹⁸. However, for the rest of the Latin-speaking world, evidence from the Romance languages and Latin inscriptions demonstrate the following (figure 3.4):¹¹⁹



The Proto-Romance consonants are far more similar to their classical Latin counterparts (figure 3.5).

¹¹⁸ Adams (2007) 260-265

¹¹⁹ modified from Herman (2000) 31.

Figure 3.3 ¹²⁰				
	Bilabial	Labio-dental	Alveolar /Dental	Velar
Stop	*p *pp *b		*t *tt *d	*k *kk *g
Fricative		*f	*s	
Nasal	*m		*n	
Lateral			*l	
Flap			*r	

The labio-velar stop [k^w] and its possible voiced counterpoint [g^w] are no longer distinct phonemes, the labio-velar approximant [w] has started to spirantize into a fricative, and the fricative [h] has been lost in all environments¹²¹.

However, many of the consonantal features that differentiate the Romance languages from Latin, noticeably “a separate palatal place of articulation”¹²² (discussed in detail in 3.2.2) are *not* evident in Proto-Romance. Features such as palatalization are attested in inscriptions early enough that they are worth considering in our analysis. However, palatalization cannot properly be considered a Proto-Romance feature because it only affects the Western Romance languages: Italian, French, Spanish, and Portuguese¹²³. Degemination is another later development that affects most of the Romance languages, but not all of them (c.f. 3.2.2 and 3.2.4).

In the next six sections, I describe the development of the six sound changes that I subject to quantitative analysis.

¹²⁰ R. Hall (1976) 61.

¹²¹ Agard (1984) 51.

¹²² R. Hall (1976) 61.

¹²³ R. Hall (1976) 195-196.

3.2.2 – Palatalization

Palatalization is a common form of regressive assimilation. In regressive assimilation, a sound becomes more similar to the following sound in order to conserve energy. In the most common form of palatalization, a consonant takes on the palatal place of articulation of a following high front vowel, such as [i], [y], [ɪ], or [e]. Usually, the consonant becomes a true palatal for a short time, and then mutates to an acoustically similar sound, such as an affricate.

Palatalization in Latin began in the second century AD with the alveolar stops [t] and [d]. Wherever [t] or [d] preceded the front vowel [i] and another vowel (as in the classical Latin form *HODIE*) the stop and front vowel coalesced into one sound. Likely, this sound was the palatal stop [c]. We have no attestation for this pronunciation, but that's not surprising. Latin spelling was never strictly phonetic and didn't reflect sound changes as they occurred. Palatal consonants often undergo a further shift (typically called palatalization, but more accurately called a palatal mutation¹²⁴) to a coronal affricate or a fricative, so we would expect to find affricates or fricatives in misspellings, which is exactly what we find in *oze*, a second-century AD inscriptional misspelling of *HODIE*¹²⁵.

Further confusion was introduced when [k] and [g] also palatalized in the environment of [i] and another vowel, becoming similar to or (in some dialects)

¹²⁴ Sanders (2003).

¹²⁵ R. Hall (1976) 195.

indistinguishable from what had once been [ti]¹²⁶. Starting in the second half of the fourth century, inscriptional confusion of <c> and <t> in these environments was common, such as <nacione> for <natione> (CIL VI 34635)¹²⁷. It should be noted that pronunciation likely merged the stop and the front vowel, but traditional orthography represented the single sound with a digraph containing the original vowel, and only the confusion between the previously unconfused <c> and <t> reflects the change.

3.2.3 - Loss of [h]

Proto-Romance accounts do not explain the loss of the laryngeal fricative [h] in Latin. Hall (1976) does not even mention the sound. It's not that the shift is linguistically odd. [h] is often lost cross-linguistically because it is already an acoustically weak sound, making it difficult to perceive. However, comparative reconstruction can only trace a family of languages to the exact moment of their split. [h] was lost in all environments in the Republican period, long before the Romance languages were distinct¹²⁸. Agard puts the change, which he describes as a “total, unconditioned loss”, somewhere between Cicero and 27 AD¹²⁹.

Conventional orthography does not reflect this shift, but we know that it was lost early because of common early inscriptional errors, both from the omission of [h]

¹²⁶ R Hall (1976) 196.

¹²⁷ Herman (2000) 43.

¹²⁸ Herman (2000) 38.

¹²⁹ Agard (1984) 51.

and hypercorrection where an [h] doesn't belong (<holim> for OLIM)¹³⁰. Since the change carried over into all Romance languages, we would not be able to predict [h] ever existed using only comparative reconstruction, since the only clues to its existence are in the orthography.

3.2.4 – Degemination

Degemination is the reduction of a double consonant to a single consonant. As stated in Section 3.1, classical Latin had a contrastive distinction between long and short consonants intervocalically. Agard calls these intervocalic geminates “coda-onset” geminates because they were split across two syllables¹³¹. Degemination didn't affect every Romance language, and therefore geminates still appear in the Proto-Romance consonant chart (see Table 3.5) . However, degemination was widespread: degemination affected “all of [the Romance-speaking world] except central and southern Italy and the southern islands”¹³². In our text, degemination is represented by single consonants being written for an expected double consonant. For example, we see <efusa> for classical Latin EFFUSA ‘poured out’.

3.2.5 - Vowel Mergers: [e:] – [i] and [o:] – [u]

As mentioned in section 3.1, classical Latin had a five-vowel system that was contrastive by vowel length. So there was a four-way distinction between [i:], [i], [e:],

¹³⁰ Herman (2000) 38.

¹³¹ Agard (1984) 75.

¹³² Agard (1984) 75.

and [e], and a parallel distinction between [u:], [u], [o:], and [o]. This was unstable because it required making a slight distinction based on length (between the long and short vowels) and another slight distinction based on quality (between [i] and [e] and between [o] and [u])¹³³.

As the length distinction became less distinctive, a merger occurred wherein the long mid vowels merged with the short high vowels, that is, [e:] merged with [i] and [o:] merged with [u]. [i:] and [u:] remained unaffected by this change. This merger likely began when the short vowels became more lax, which was common to the Romance languages¹³⁴. The full merger of [i] and [e:] took place in all of the Romance languages, except in Sardinia and some scattered locations¹³⁵. The parallel merger of [u] and [o:] happened later and did not spread as far east as the Balkans¹³⁶.

The mergers are represented in inscriptions with confusion between <i> and <e> in both directions. So there are spellings that directly reflect the change, such as <domene> for DOMINE ‘master’, but also hypercorrections, such as <minses> for MENSES¹³⁷ ‘month’.

3.2.6 – Shift of [e] to [i] in Hiatus

The merger of [e:] and [i] to [e] did not apply when the vowels are *in hiatus*.

Vowel hiatus refers to the environment in which one vowel follows another, but the two

¹³³ Herman (2000) 28-31.

¹³⁴ Agard (1984) 50.

¹³⁵ Hall (1976) 184.

¹³⁶ Hall (1976) 186.

¹³⁷ R Hall (1976) 185.

vowels do not form a diphthong. In this environment, [e] and [i] still experience a merger, but to [i] rather than to [e]¹³⁸. Therefore, Classical BALNEUM would be pronounced [balnium], and Classical OSTRIA would be [ostria]. In the *Satyricon*, we see spelling changes that reflect this directly, such as <gallinacium> for Classical GALLINACEUM (see section 4.2.7). We also see numerous hypercorrections, such as <Corintheus> for Classical CORINTHIUS (*Satyricon* 50).

¹³⁸ R Hall (1976) 181.

4. Data and Statistics

4.1 Methodology

I chose to use the H manuscript, also known as the *Codex Traguriensis*, as the basis for my statistical analysis¹³⁹ because it has the largest chunk of the *Cena Trimalchionis* and because it has the most deviant forms. To analyze the various errors in the manuscript, I borrow from J. N. Adams' system of analyzing regional variation in Latin inscriptions¹⁴⁰. Adams explains that merely counting the number of deviations in a particular region is insufficient to draw conclusions. The first strategy is insufficient because it does not take into account how limited some phonetic environments are. If there are only three occurrences of <t> in a text, it's a much more compelling case for a sound change if two of those occurrences are written as <c> than if there are two hundred occurrences of <t>. By calculating the percentage instead of the raw number, you avoid making conclusions based on misleadingly significant results.

However, Adams also says that it isn't possible to draw results from the percentage of one error across two regions. In some regions, there might be more errors in general. A higher percentage of palatalization error in a region that has higher percentages of error for sound change does not say anything about palatalization in the region. Rather, it could merely speak to the poor spelling of the scribes. To really draw conclusions, we must compare the *relative* frequency of multiple errors. So, for instance, Adams shows that the percentage of mistakes that can be attributed to vowel shifts is

¹³⁹ Gaselee (1915).

¹⁴⁰ Adams (2007) 635-651.

very low in African inscriptions, but the relative frequency of mistakes that can be attributed to the similarity of and <v> is very high, whereas the opposite is true in Gaul. One of these statistics would not be significant by itself. However, confusion between and <v> was very prevalent in Africa and confusion of <e> and <i> was not, a different pattern than displayed in the rest of the Roman empire. Adams therefore can conclude that the merger of and <v> was widespread in Africa and the vowel merger was not.

Relative frequency for any given error is calculated with the following formula, which gives the percentage of changed forms (the *percentage changed*):

$$\frac{\Sigma (X > Y)}{\Sigma (X > Y) + \Sigma (X > X)}$$

This formula expresses the number of times that the change being observed occurs (the *number changed*) divided by the number of opportunities for the sound change to occur (the *potential targets*). So for palatalization, the number changed, i.e. $\Sigma (X > Y)$, would be the number of times classical Latin τ_i appears as <ci> and $\Sigma (X > X)$ would be the number of times a word that should be spelled with classical Latin τ_i is spelled <ti>. The number of potential targets, i.e. $\Sigma (X > Y) + \Sigma (X > X)$, is the total number of times a correspondent of classical Latin is τ_i , whether it appears as <ti> or <ci>.

For all sound changes, I analyze dialogue and narrative separately. Anytime a character is speaking out loud in the text, I mark that as dialogue. All other words in the text are marked as narrative. The narrative is written in first-person, so it is sometimes difficult to decide whether the text should be narrative or dialogue. I use Smith's punctuation as a guideline to make these distinctions.

The method works as follows. Consider the text of *Satyricon* 47.07 in figure 4.1. On the left is the manuscript reading, and on the right is the classical Latin. Potential targets for palatalization are underlined. There are three words spelled with <ti> in classical Latin: *gratias*, *indulgentiaequae*, and *potiunculis*.

Figure 4.1

<i>Codex Traguriensis</i>	Smith (1975)
<u>Gracias</u> agimus libera	<u>Gratias</u> agimus liberalitati
liberalitati, <u>indulgentiaequae</u>	<u>indulgentiaequae</u> eius, et
eius, et subinde castigamus	subinde castigamus crebris
crebis <u>potiunculis</u> risum.	<u>potiunculis</u> risum.

Indulgentiaequae and *potiunculis*, as tokens of classical TI that are represented as <ti> in the manuscript, are noted in the formula as (X > X). *Gracias* is the only token where classical TI is represented as <ci>, noted in the formula as (X > Y). The formula works as follows:

$$\frac{\sum (X > Y)}{\sum (X > Y) + \sum (X > X)} = \frac{1}{1+2} = \frac{1}{3} = 0.33 = 33\% \text{ deviation}$$

To test for significance, I compare the relative frequency of error in the dialogue and narrative for each sound change. Petronius is likely to have employed deliberate vulgarisms in dialogue rather than narrative. A scribe making a mistake based on his own modern pronunciation is unlikely to apply his spelling mistakes to one section and not both. Therefore, a changed form that has a much higher percentage in dialogue is likely to be original, and a changed form with an even distribution is likely to be scribal.

In order to cover a representative portion of the text without bias, I analyze odd sections of the *Codex Traguriensis*.

4.2 Data

4.2.1 General Notes on Data Format

My data is presented in summary below, with one chart for each sound change and a following explanation. I include a detailed breakdown of the specific tokens for each change in an appendix. Data in the appendix is listed in the same order as it appears here.

Fields that are marked as significant have a substantial statistical difference between the percentage of tokens changed in narrative and dialogue. Significance is evaluated with a p-value, which must be below 0.05 to be significant. The p-value is calculated with a *two-sample proportion test*, which compares the number of potential targets and the percentage of change for the narrative and the dialogue.

I calculate each sound change in three different ways. The first is to measure by *tokens*. Every occurrence of a target counts as its own token. *Type* counts every occurrence of the same word as one token. For instance, if the word <illa> appears in the narrative thirteen times, that counts as thirteen tokens for degemination, but only one type. *Root type* counts not just <illa> as one type, but also any words that share the same base. So thirteen occurrences of <illa>, three of <illae>, and four of <illuc> count as twenty total tokens, three types (ILLA, ILLAE, ILLUC), and one root type (ILL-).

I count by root only when the phonetic environment for change is contained in the root. So, for example, TULISSE and ETTULIT count as one root type for the merger of [o:] and [u] because the relevant sound change environment is in the root TUL- ‘do, make’. However, TULISSE and ETTULIT count as two root types for degemination because the relevant environment (the double consonants) are not part of the same root.

4.2.2 Palatalization

	Narrative			Dialogue			<i>p-value</i>	<i>significant</i>
	<i>#potential targets</i>	<i># changed</i>	<i>% changed</i>	<i>#potential targets</i>	<i># changed</i>	<i>% changed</i>		
<i>tokens</i>	76	17	22.4%	63	23	36.5%	0.068	X
<i>types</i>	63	12	19.7%	50	17	34%	0.089	X
<i>roots</i>	46	7	15.9%	32	7	21.3%	0.542	X

My data for palatalization, unlike that of the other five changes, covers the even sections of the *Codex Traguriensis*, as well as the odd sections. Of the 76 words in the narrative section that have Classical *TI* followed by another vowel (e.g. *tertium*, *potentia*), approximately 22.4% reflect palatalization in the orthography, with <ci> instead of expected <ti>. In the dialogue, the words spelled <ci> is well above that, at 36.5%. However, the p-value of the tokens is 0.068, slightly above 0.05, and therefore this change is not statistically significant. This illustrates the importance of using statistical analysis. To the naked eye, the difference between the narrative and dialogue sections looks important. Formal statistics is necessary to show that this is not the case.

The lack of significance is what we expect to see. Logically, changes that are significantly more common in the dialogue will be original to Petronius because he is attempting to create an effect of common speech. In contrast, a scribe errs accidentally and has no apparent reason to do so more frequently in the narrative than in the

dialogue. This change occurred between the second and fourth centuries¹⁴¹, long after Petronius wrote, and therefore should not have been deliberately employed.

4.2.3 Loss of [h]

	Narrative			Dialogue			<i>p-value</i>	<i>significant</i>
	<i>#potential targets</i>	<i># changed</i>	<i>% changed</i>	<i>#potential targets</i>	<i># changed</i>	<i>% changed</i>		
<i>tokens</i>	49	2	4.1%	155	3	1.9%	0.383	X
<i>types</i>	31	2	6.5%	69	3	4.4%	0.657	X
<i>roots</i>	16	1.33	8.3%	24	1.33	5.5%	0.727	X

In contrast to palatalization, with 30% of targets changed in the dialogue, only 2% of the tokens in the dialogue reflect the loss of [h]. In the narrative section, 2 of 49 tokens changed, with a comparably small percentage of change (4%). This difference has too few tokens to be statistically significant. The difference between roots, 8% of roots changed in the narrative and 5.5% of roots changed in the dialogue, is also not significant.

Why are there so few tokens that reflect this sound change? This sound change was complete decades before Petronius began writing¹⁴². There was clearly metalinguistic awareness for the loss of [h] and the tendency to err in Latin; Catullus 84 quotes Arrius as saying *hinsidias* instead of *insidias*. The hypercorrection is meant to mock his pretention (Catullus 84). Therefore, not only is it possible that Petronius was

¹⁴¹ Herman (2000) 43.

¹⁴² c.f. section 3.2.3 for the chronology of [h]'s disappearance from Latin.

deliberately employing deviant forms that involved [h], he would be working within a precedent if he did so.

Possibly the change had already become so pervasive by Petronius's time that it was no longer highly marked as a vulgarism. If that is true, it may offer a suggestion about the limited quantity of the shift. It doesn't, however, rule out the possibility that the scattered misspellings with <h>, which grow in size if we consider hypercorrections, are Petronian. This goes back to the issue of eye dialect¹⁴³. If Petronius is using eye dialect, then he can represent confusion about the proper use of <h> as vulgar, even if such confusion reflects a pronunciation shared also by the aristocracy.

4.2.4 Degemination

	Narrative			Dialogue			<i>p-value</i>	<i>significant</i>
	<i>#potential targets</i>	<i># changed</i>	<i>% changed</i>	<i>#potential targets</i>	<i># changed</i>	<i>% changed</i>		
<i>tokens</i>	168	13	7.7%	240	8	3.3%	0.047	✓
<i>types</i>	135	12.5	9.3%	160	5.75	3.6%	0.043	✓
<i>roots</i>	95	9.25	9.7%	94	5.75	6.1%	0.359	X

Degemination does not occur in noticeably higher percentages than changes involving the loss of [h], but we have more tokens to work with, so we are able to obtain significant results. However, those results are very unexpected, because they show that degemination is about twice as common in the narrative as the dialogue.

¹⁴³ c.f. section 2.3.2 for a more detailed discussion of eye dialect.

Neither my prediction for original change or for scribal error accounts for a significant difference that favors the narrative over the dialogue.

The only saving grace would be to say that counting by root type is the most valid method. For tokens and for types, degemination had significant results. However, the root type results are not even close to being significant. Whereas the dialogue has a much larger number of potential tokens, and therefore a much smaller percentage of deviation for the tokens, the dialogue and the narrative have almost the same number of potential targets for root type. This makes the difference between the 5.75 number of changed root types in the dialogue much closer to the 9.25 changed root types in the narrative. We would expect non-significant results, so if we use the root-type as an indication, our results are perfectly acceptable.

Degemination is problematic to study in a text because spelling errors do not necessarily reflect actual degemination. F. Hall cautions very strongly against taking visual errors as signs of sound change¹⁴⁴. It is certainly possible that words are being misspelled to reflect a sound change where double consonants are pronounced as single consonants. This would be true degemination. However, it is also quite possible that writing one consonant for two could be a simple orthographic error. Our best way of distinguishing between these possibilities is to look at the frequency with which a word or root appears spelled both correctly and incorrectly. If the error is scribal and not Petronian, as seems likely from the dialogue/narrative ratio, then degemination should

¹⁴⁴ F. Hall (1913) 156.

lead to fairly consistent spelling. A scribe who genuinely can't tell the difference in pronunciation between single and double consonants is likely to misspell the same words over and over again. In contrast, a scribe who simply fails to copy a letter twice should do so completely at random, even in very common words.

We do have many cases of words and roots that appear both in deviant and standard forms: the *CURR-* root appears correctly in <currebant> and <discurrentem>, but is misspelled in <discureret>. Similarly, there is a disagreement between <efficerent> and <efecisset>. In two different cases (*CAPPADOCEM* in the dialogue and *EPIGRAMMATE* in the narrative), the same word appears once with a geminate and once with a single consonant. The data sample is too small to be conclusive, but there is some suggestion that what appears to be an orthographic representation of degemination is actually just a visual error.

This makes good linguistic sense for two reasons. First, degemination occurred throughout many dialects of Romance, but not in “central and southern Italy and the southern islands”. Italian retains a length distinction in its geminates to this day, as shown by *koppa*, *bokka*, and *gotta* in table 3.2. The final scribe to copy this text is Italian. There could theoretically be an intermediate scribe that had the merger between single and double consonants, but our data does not offer any support for that claim. In all likelihood, these spelling errors only *appear* to represent a sound change.

4.2.5 Merger of [e:] and [i] to [e]

The tokens of <i> I include in my potential targets are constrained by a number of factors. First, I only represent tokens of <i> that represent the short high front vowel [i] because long high front vowel [i:] didn't merge with [e]. I also limit my analysis to syllables with primary or secondary stress, because unstressed vowels have a different pattern of change in Romance. For the same reason, cases of hiatus (two vowels beside each other) are omitted (see 4.2.7). Finally, I disregard morphological case and verb endings because often an alteration between <i> and <e> in these cases could be morphological *or* phonetic, and morphological variation is beyond the scope of this thesis.

	Narrative			Dialogue			<i>p-value</i>	<i>significant</i>
	<i>#potential targets</i>	<i># changed</i>	<i>% changed</i>	<i>#potential targets</i>	<i># changed</i>	<i>% changed</i>		
<i>tokens</i>	177	0	0	2	242	0.8%	0.233	X
<i>types</i>	106	0	0	2	142	1.4%	0.222	X
<i>roots</i>	75	0	0	2	101	1.9%	0.230	X

This leaves us with two tokens of change in the dialogue and none in the narrative. The p-value of 0.222-0.233 is lower than for most of my changes, but still well above 0.05 and therefore statistically insignificant. More tokens would be necessary for significant results to be possible. This finding is in accordance with Muller's judgment: he does not admit either of the deviations above in his edition¹⁴⁵.

¹⁴⁵ Müller, K. (1961)

Historically, we know that the vowel merger was very well attested in vulgar Latin¹⁴⁶ and it was universally predicted in the Western Romance languages¹⁴⁷. The results were not significant, but the fact that no deviant forms appear in the narrative supports the case for an original Petronian innovation. This pattern of deviation in the dialogue is also supported by the even sections, where the only example of deviation noted in Beck occurs in the dialogue (*cretica* for *critica* in *Satyricon* 58.07)¹⁴⁸.

4.2.6 Merger of [o:] and [u] to [o]

<o> and <u> have the same restrictions as those described above for <i> and <e>. The only questionable case is the one change that occurs in the dialogue. It is properly ABSENTIVUS, but it is written in the manuscript as <absenti vos>. I count this form because although the <u> in ABSENTIVUS is both unstressed and morphological, in *absenti vos*, <o> is neither of those things.

	Narrative			Dialogue			<i>p</i> -value	<i>significant</i>
	<i>#potential targets</i>	<i># changed</i>	<i>% changed</i>	<i>#potential targets</i>	<i># changed</i>	<i>% changed</i>		
<i>tokens</i>	73	1	1.4%	127	1	0.8%	0.684	X
<i>types</i>	44	1	2.3%	83	1	1.2%	0.636	X
<i>roots</i>	36	1	2.7%	67	1	1.5%	0.672	X

¹⁴⁶ Herman (2000) 31. Also c.f. section 3.2.1

¹⁴⁷ R. Hall (1976) 18

¹⁴⁸ Beck (1863) 77

Though this change is not well documented in the sections I studied, the text does offer some evidence of this sound change. There are many cases of hypercorrected <u> for expected <o>. In the odd sections, there is <expuduratam> (39.05), and in the even-numbered sections <dupundii> and <embulum>. Furthermore, since the number of potential targets is small, there were not many opportunities for the sound change to manifest.

4.2.7 Shift of [e] to [i] in Hiatus

For the shift of [e] to [i] in hiatus, I recorded every case where <e> proceeded another vowel as the potential target, including those that were part of morphological endings. My rationale is that unlike in section 4.2.5, where many confusions of <i> and <e> were likely to be a difference of morphology rather than phonology, <i> and <e> before another vowel were almost never grammatically distinct. There are some cases where the difference could be one of verb conjugation, but even in this case, phonology likely exacerbated that shift.

	Narrative			Dialogue			<i>p-value</i>	<i>significant</i>
	<i>#potential targets</i>	<i># changed</i>	<i>% changed</i>	<i>#potential targets</i>	<i># changed</i>	<i>% changed</i>		
<i>tokens</i>	60	0	0	38	1	2.6%	0.209	X
<i>types</i>	45	0	0	35.5	0.5	1.4%	0.426	X
<i>roots</i>	35	0	0	21.5	0.5	2.3%	0.367	X

The tokens of change are misleadingly small for this sound change. In the odd sections, there was only one occurrence (*gallinacium*, which appears once in its deviant form and once as Classical *gallinaceum*). However, there were three tokens in the even sections of the narrative: *nausia* for Classical NAUSEA (*Satyricon* 64.06), *ostria* for OSTREA (70.06), and *cauniarum* for CAUNEARUM (44.13). The first two instances occur in the narrative, while the second occurs in the dialogue. Hypercorrection, discussed in more detail below, more than doubles the tokens that indicate this change.

5. Conclusion

This thesis achieves two goals. First, I offer new data with which to emend the text of Petronius. Second, I test a methodology that separates scribal errors from deliberate vulgarisms with a quantitative evaluation of error in the text.

5.1 – Potential for Emendation

I cannot compare all six changes, because only degemination is statistically different in the dialogue and the narrative. However, since degemination is not more common in the dialogue, in fact being about twice as common in the narrative sections of the text, it is very unlikely that degemination was deliberately employed by Petronius. Therefore, all traces of degemination should be removed from modern editions of the text. This is already true of Smith's edition of the text¹⁴⁹.

In contrast, the merger of [e:] and [i], as represented by spellings of <e> for <i> in stressed syllables, is only present in the dialogue. However, the test for statistical significance is not dependable with fewer than ten tokens of change. To draw more conclusive results, further samples from the even sections of the text should also be evaluated. Based on the presence of the merger in Proto-Romance and an abundance of attestations for the change in inscriptions, I believe that Petronius deliberately used <e> for expected <i> to demonstrate the speech of the freedmen. This goes against

¹⁴⁹ Smith (1975).

Müller's text as it appears in Smith, which corrects both instances <e> for expected <i>.

5.2 – Assessment of Methodology

To review, this methodology is a modification of J.N. Adams' method for studying errors in inscriptions¹⁵⁰. The key element is comparison. Tokens of change are compared on three levels. First, deviation is compared to the potential targets of change, those words in which change *could* have happened based on the phonetic environment. Then the percentage of change is compared between the dialogue and narrative sections of the text. Finally, the difference between the dialogue and the narrative is compared across all six changes to see if the sound changes have different ratios of deviation in the two environments. In order for conclusions to be drawn, this final stage must have significant differences.

This quantitative methodology stands in contrast to Bret Boyce's qualitative account of error¹⁵¹. Boyce lists particularly salient examples of deviant forms in the text, but he doesn't compare the frequency of deviation to the number of potential targets, nor does he compare the errors in the freedmen's speech to errors made throughout the rest of the text, to see if they are indeed uniquely vulgar.

¹⁵⁰ Adams (2007) – c.f. section 4.1 for a more detailed discussion of the methodology.

¹⁵¹ Boyce (1990).

5.2.1 – *The Advantages of the Methodology*

Measuring deviation as a percentage of the potential targets allowed me to see more accurately how common each error was. The dialogue portion of the text is larger than the narrative portion, which would skew results gathered by token instead of percentages. If I were only noting tokens of change, I would say that [h] was more commonly lost in the dialogue, where there are three tokens of change, than in the narrative, where there are only two. However, when we consider that there were three times more potential targets in the dialogue, the narrative in fact has a higher percentage of deviation¹⁵². Often, the percentages reinforce rather than contradict the results from the tokens. The high number of tokens that demonstrate degemination in the narrative is even more impressive because there were far fewer potential targets than in the dialogue.

5.2.2 – *Problems*

However, while this is encouraging for the validity of the methodology, there were not enough tokens to draw many definitive conclusions about the manuscript. Adams designed the comparison to apply across inscription corpora for entire countries. Therefore, it works optimally when there are abundant tokens of change. The five tokens where <h> is omitted or the one token where <e> becomes <i> in hiatus are insufficient. Even the sections with significant results are weakened by these holes in the data. The strategy is built entirely on comparison, and I only had one

¹⁵² Note that the difference between the narrative and dialogue is not actually statistically significant

change with significantly different results, so I didn't have much material with which to compare.

The quantitative methodology employed here also lacks the ability to do close analysis, and thus can miss things that might inform the emendation process. For instance, my chart shows that there are three tokens where <h> is omitted. However, it doesn't show that those three tokens are all in section 53 within a few lines of each other. Furthermore, <ortis> and <orti> for Classical HORTIS and HORTI appear in the same line as <ortum>, which appears at first to be a misspelling of Classical HORTUM, but is actually a perfect participle of ORIOR¹⁵³. The close proximity of the misspellings makes it likely that these forms are deliberately employed, and juxtaposed with *ortum* to highlight their incorrectness. None of that can be observed by a methodology that focuses strictly on raw counts of occurrences.

5.2.3 – Improvements to Methodology for Future Research

For future research, the entire text should be analyzed, rather than a representative sample. The total sample size of data for this manuscript is small enough that the odd-numbered sections didn't have enough data to obtain significant results. Someone using both the even and odd-numbered sections in their results would have more tokens, which could lead to a difference in statistical significance.

The odd-numbered sections have a higher percentage of dialogue than narrative, so the narrative sample size was especially small. In the even-numbered sections, there

¹⁵³ My judgment on *ortum* is based on Smith (1975).

is a higher percentage of narrative, which further increases the chance that both the dialogue and the narrative will be sufficient size for significant results. Note that significance is not expected for every sound change, but using the whole text decreases the possibility that results will be insignificant just because of the size of the data set.

In order to facilitate increased coverage, anyone else attempting this methodology would be well-served to do it with software that could compare the manuscript text to the text of a corrected edition or directly to classical Latin forms. The difficulty with doing this for the *Codex Traguriensis* is that an electronic copy of the manuscript transcription is not readily available. However, it might be possible if the text could be obtained electronically from its current publisher or through OCR software. This would greatly enhance the speed at which the analysis could be done, and would allow this sort of analysis to be done alongside other means of evaluating the text.

Finally, an analysis that seeks to quantitatively evaluate error in a manuscript should also consider hypercorrection. Hypercorrection, also called over-correction and hyperurbanism involves “the extension of a linguistic “analogy”¹⁵⁴. So for instance, the use of *I* for *me* in object position is hypercorrection. The proper form is *me*, but people’s instincts aren’t good in certain environments; they know that after the conjunction *and*, *I* is often correct, so they overextend its usage by analogy and say *I* instead of *me*.

¹⁵⁴ R. Hall (1976) 8

Hypercorrection differs from normal sound change in that hypercorrection is random and sound change is completely regular. This sporadicness makes it unsuitable for statistical analysis. However, in writing, all sound change is represented sporadically, either to create a literary effect or as a spelling error. Confusion between <c> and <t> in spelling represents the same sound change whether <c> is being written for <t> or the reverse.

Hypercorrection is challenging in this methodology because all potential targets for change must be measured. In the case of [h], which was a complete loss in the language, there is no clear boundary for what would be a potential target. Despite this difficulty, considering hypercorrection for the *Satyricon* is necessary. Some changes, like palatalization, had very few hypercorrections. However, the shift of <e> to <i> in hiatus had many more hypercorrections than it had actual tokens of change. The abundant presence of hypercorrection for this sound change is interesting, but only a full quantitative analysis would determine whether the hypercorrection is significant or just looks compelling to the naked eye.

Furthermore, hypercorrection is essential to consider because there are cases in which it is almost certainly being deployed deliberately. Trimalchio, who speaks much of the dialogue in the text, is a freedman with delusions of grandeur. He often puts on and overdoes airs of upper crust society. For instance, he enters the banquet decked out with a *laticlaviam...mappam* ‘a napkin striped with purple’, a tribute to the purple stripes that senators wore on their togas (*Satyricon* 32.02) and golden rings that imitate

the equestrian rank (*Satyricon* 32.03). Boyce believes this failed attempt at social climbing is also evident in Trimalchio's "attempts to employ cultivated language,"¹⁵⁵ which he describes as "social schizophrenia [...] in his speech"¹⁵⁶. Specifically, Trimalchio hypercorrects, such as his hypercorrection of expected <i> to <e> in *Corintheus* (classical Latin CORINTHIUS) on five different occasions.

5.3 – In Favor of a Dual Approach

By measuring changed forms as percentages of the potential targets, a quantitative method of the *Codex Traguriensis* allows us to see which errors were most prevalent in the text and whether they were significant. Therefore, this methodology does have merit for future study, especially if it is improved by gathering data with a computer program, which would allow an efficient and thorough analysis of the entire text, including hypercorrections.

However, a quantitative analysis produces different information than a qualitative analysis of deviation, such as that as Boyce. An approach to the text that used qualitative and quantitative analyses in tandem would achieve the most interesting results.

Qualitative analyses are best for nuanced interpretation of characterization and literary effect. For instance, <ortis> for expected HORTIS can be discovered by either analysis, but only a qualitative analysis can point out how the juxtaposition of <ortis>

¹⁵⁵ Boyce (1991) 100.

¹⁵⁶ Boyce (1991) 98.

and classical *ORTUM* enriches the passage in which they both appear (c.f. 5.5.2). They discover and interpret points of linguistic interest, but they cannot contextualize those points within the wider scope of the text. Boyce points to Trimalchio's hypercorrection of <e> for expected <i>, and he connects hypercorrection to Trimalchio's personality. He could even take his analysis one step farther, and connect Trimalchio to the corporate identity and collective pride that Kleijwegt attributes to wealthy freedmen¹⁵⁷. However, Boyce cannot prove that this hypercorrection is any more common for Trimalchio than for the narrative portions of the text or that it is more common than a random visual-based error; his results therefore are interesting but not scientific or rigorous.

Used in tandem, a quantitative approach can provide a check, or support, to the unfalsifiable claims of a qualitative analysis. When the statistics reach the same finding as the qualitative observation, as may be the case with hypercorrection of <e> for expected <i>, the observation becomes much more credible. At other points, the observation may be misleading, and a quantitative evaluation of similar environments will reveal that error. Therefore, the results of a combined approach will have all the interest and nuance a qualitative approach can provide, but will also have the scientific rigor and accuracy of a quantitative approach.

¹⁵⁷ Kleijwegt (2006) 111.

Appendix – Raw Data

Palatalization						
Narrative						
Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	actionem	0	1		0	1
	admiratione	0	3		0	1
	ambitosissime	0	1		0	1
	catentatio	0	1		0	1
COGITATI-	cogitatione	0	1		0	1
	cogitationes	0	1		0	1
				total	0	1
	divitias	0	1		0	1
	egyptius	0	1		0	1
	elegantias	0	1		0	1
	eloquentia	0	1		0	1
	etiam	0	3		0	1
	exspectatione	0	2		0	1
	factio	0	1		0	1
	ferventia	0	1		0	1
FREQUENTI-	frequentia	0	1		0	1
	frequentius	0	1		0	1
				total	0	1
	gratias	1	2		0.33	0.67
	gustatio	0	1		0	1
	inclinatione	0	1		0	1
INDULGENTI-	indulgentiae	0	1		0	1
	indulgentiaequae	0	1		0	1
				total	0	1
	honestiores	0	1		0	1
	inscriptione	0	2		0	1
	insolentia	0	1		0	1
	labentia	0	1		0	1
	lamentatione	0	1		0	1
LAUDATI-	laudationem	0	1		0	1
	laudationibus	0	1		0	1
				total	0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
LAUTITI-	lautitiarum	1	0		1	0
	lautitias	4	0		1	0
	lautitiis	1	0		1	0
				total	1	0
NUNTI-	licentiae	0	1		0	1
	mentio	0	1		0	1
	nuntiaretur	1	0		1	0
	nuntior	0	1		0	1
				total	0.5	0.5
OSTI-	ostiarii	0	2		0	1
	ostiarius	0	1		0	1
				total	1	0
	petiit	0	1		0	1
	potentia	0	1		0	1
POTI-	potione	0	1		0	1
	potionem	0	2		0	1
	potiunculis	0	1		0	1
				total	0	1
PRETI-	pretiosior	1	0		1	0
	pretium	1	0		1	0
				total	1	0
RATI-	ratiocinari	0	1		0	1
	ratione	0	2		0	1
				total	0	1
	recordatio	0	1		0	1
	retia	0	1		0	1
	saltationis	0	1		0	1
	sententiam	0	1		0	1
	silentio	0	1		0	1
TERTI-	spatio	1	1		0.5	0.5
	sestertiorum	1	0		1	0
	tertium	2	0		1	0
				total	1	0
	totiens	1	0		1	0

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	trepidationem	0	1		0	1
	tristiores	0	1		0	1
VENERATI-	venerationis	1	0		1	0
	venerationem	1	0		1	0
				total	1	0
	vexatione	0	1		0	1

Palatalization						
Dialogue						
Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	auctionem	0	1		0	1
	beatior	0	2		0	1
BESTI-	bestiarior	0	1		0	1
	bestias	0	2		0	1
				total	0	1
	centies	0	3		0	1
	depraesentiarum	0	2		0	1
	disertiarem	0	1		0	1
	frequentia	0	1		0	1
GRATI-	gratia	0	2		0	1
	gratias	0	1		0	1
				total	0	1
	honestiorem	0	1		0	1
	hospitium	2	0		1	0
	initia	1	0		1	0
	inscriptione	0	1		0	1
	lautitiae	1	0		1	0
	lentior	0	1		0	1
	lotium	0	1		0	1
	maecenatianus	0	1		0	1
	martiolum	0	1		0	1
	mentiar	0	1		0	1
	neglegentia	1	0		1	0
	nequitiae	0	1		0	1

Root	Word	Tokens			Type	
		x > y	x > x		x > y	x > x
NEGOTI-	negotia	1	0		1	0
	negotians	1	0		1	0
	negotiari	0	1		0	1
	negotiatione	1	0		1	0
	negotiationem	1	0		1	0
	negotium	1	0		1	0
				total	0.83	0.17
OSTI-	ostiarii	0	1		0	1
	ostio	0	1		0	1
	ostium	0	1		0	1
				total	0	1
	otio	0	1		0	1
POTI-	potio	0	1		0	1
	potiones	0	1		0	1
	potius	0	1		0	1
				total	0	1
	pretiosum	1	0		1	0
PROPITI-	propitiam	1	0		1	0
	propitii	1	0		1	0
	propitium	1	0		1	0
				total	0	1
	quotienscunque	0	1		0	1
RATI-	ratione	0	1		0	1
	rationem	0	1		0	1
	rationem	0	1		0	1
				total	0	1
	sentiet	0	1		0	1
TERTI-	sextertiarius	1	0		1	0
	sextertium	6	0		1	0
	tertiarius	1	0		1	0
	tertium	1	0		1	0
				total	1	0
	trecenties	0	2		0	1
	vestiarius	0	1		0	1

Loss of [h]						
Narrative						
Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	cohaerent	0	1		0	1
	deprehensa	0	1		0	1
	detraheret	0	1		0	1
HAB-	habebam	0	1		0	1
	habebat	0	3		0	1
				total	0	1
HABINNA-	habinna	0	1		0	1
	habinnae	0	1		0	1
	habinnam	0	1		0	1
	habinnamque	0	1		0	1
	habinnas	0	5		0	1
				total	0	1
HIC, HAEC	hac	0	2		0	1
	haec	0	7		0	1
	hanc	0	2		0	1
	has	0	1		0	1
	hoc	0	3		0	1
				total	0	1
	harundibus	0	1		0	1
	hastisque	0	1		0	1
	hederisque	1	0		1	0
HILAR-	hilaesque	0	1		0	1
	hilaritate	0	1		0	1
	hilaritatem	1	0		1	0
				total	0.33	0.67
	hinc	0	2		0	1
	homeristae	0	2		0	1
HOM-	homines	0	1		0	1
	homo	0	1		0	1
				total	0	1
	huc	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
HUMAN-	humanae	0	1		0	1
	humanis	0	1		0	1
	humanitatem	0	1		0	1
	humanitati	0	1		0	1
				total	0	1
	semihora	0	1		0	1

Loss of [h]						
Dialogue						
Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	adhuc	0	3		0	1
	deprehensus	0	1		0	1
HAB-	habeam	0	1		0	1
	habeas	0	2		0	1
	habeat	0	1		0	1
	habeatis	0	1		0	1
	habebam	0	1		0	1
	habebamus	0	1		0	1
	habebat	0	3		0	1
	habeberis	0	1		0	1
	habeo	0	1		0	1
	habere	0	2		0	1
	haberem	0	2		0	1
	haberemus	0	1		0	1
	haberet	0	1		0	1
	habes	0	1		0	1
	habet	0	12		0	1
	habui	0	2		0	1
	habuimus	0	2		0	1
	habuit	0	3		0	1
				total	0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
HABINNA-	habinna	0	2		0	1
	habinnas	0	1		0	1
				total	0	1
HABIT-	habitabamus	0	1		0	1
	habitandum	0	1		0	1
	habitant	0	1		0	1
	habitasse	0	1		0	1
	habituri	0	1		0	1
				total	0	1
HIC, HAEC	hac	0	2		0	1
	haec	0	5		0	1
	hanc	0	3		0	1
	hic	0	10		0	1
	his	0	1		0	1
	hoc	0	15		0	1
	horum	0	1		0	1
	huic	0	1		0	1
	huius	0	3		0	1
	hunc	0	1		0	1
				total	0	1
	helena	0	1		0	1
HERC-	herculem	0	1		0	1
	hercules	0	10		0	1
				total	0	1
HERED-	heredem	0	2		0	1
	hereditatem	0	2		0	1
				total	0	1
	heri	0	1		0	1
	hermeros	0	1		0	1
	Hermogenis	0	1		0	1
	hiemis	0	1		0	1
HILAR-	hilaes	0	1		0	1
	hilaeia	0	1		0	1
				total	0	1
	hircus	0	1		0	1
	hodie	0	3		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	holera	0	1		0	1
HOM-	hominem	0	3		0	1
	homines	0	7		0	1
	homini	0	1		0	1
	homo	0	8		0	1
				total	0	1
HOMER-	homeristas	0	1		0	1
	homeros	0	1		0	1
				total	0	1
HONEST-	honeste	0	2		0	1
	honestiorim	0	1		0	1
				total	0	1
	horas	0	1		0	1
	horologium	0	1		0	1
HORR-	horreum	1	0		1	0
	horribilem	0	1		0	1
	inhorruerunt	0	1		0	1
				total	0.33	0.67
HORT-	hortis	1	0		1	0
	horti	1	0		1	0
				total	1	0
HOSPIT-	hospitari	0	2		0	1
	hospites	0	1		0	1
	hospitium	0	2		0	1
				total	0	1

Degemination						
Narrative						
Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	aberrante	0	1		0	1
	accersere	0	1		0	1
	accipimus	0	1		0	1
	adducti	0	1		0	1
	affabilitate	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	afferri	0	3		0	1
ALLAT-	allata	0	1		0	1
	allatum	0	1		0	1
	allatus	0	1		0	1
				total	0	1
	appareret	0	1			
APPELL-	appellabat	0	1		0	1
	appellando	0	1		0	1
				total	0	1
	applicat	0	1		0	1
	approbari	0	1		0	1
	armillas	0	1		0	1
	arripuit	0	1		0	1
ASELL-	asellum	0	1		0	1
	asellus	0	1		0	1
				total	0	1
	assurgere	0	1		0	1
	attonitis	0	1		0	1
	capsellam	0	1		0	1
	cenasse	0	1		0	1
	cingillo	0	1		0	1
	codicillos	0	1		0	1
	collegit	0	1		0	1
	colliberti	0	1		0	1
	collo	0	1		0	1
	colloquerentur	0	1		0	1
	comessemus	0	1		0	1
	comissator	0	1		0	1
	confessus	0	1		0	1
	consurrexit	0	1		0	1
	correctos	0	1		0	1
	cristallinis	0	1		0	1
CESS-	accessere	0	1		0	1
	processit	0	1		0	1
	secessum	0	1		0	1
				total	0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
CURR-	currebant	0	1		0	1
	discurrentem	0	2		0	1
	discurreret	1	0		1	0
				total	0.25	0.75
	deferre	0	1		0	1
	diffusus	0	1		0	1
	discussa	0	2		0	1
EFFIC-	efficerent	0	1		0	1
	effecisset	1	0		1	0
				total	0.5	0.5
	efflaverat	0	1		0	1
	effugere	1	0		1	0
	effundere	0	1		0	1
	effusa	1	0		1	0
	epigrammate	1	1		0.5	0.5
ESSE-	esse	0	7		0	1
	essent	0	1		0	1
	esset	0	5			
	fuisset	0	2		0	1
				total	0	1
	exossatas	0	1		0	1
	ferruminati					
	flagello					
	follem	1	0		1	0
GALLINA-	gallina	0	1		0	1
	gallinaceum	0	1		0	1
	gallinae	0	1		0	1
	gallinas	0	1		0	1
				total	0	1
	garrimus	0	1		0	1
HABINNA-	Habinna	0	1		0	1
	Habinnae	0	1		0	1
	Habinnam	0	1		0	1
	Habinnas	0	4		0	1
				total	0	1
ILL-	illa	0	2		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	ille	0	5		0	1
	illi	0	1		0	1
	illinc	0	1		0	1
	illum	0	1		0	1
	illuc	0	1		0	1
				total	0	1
	immisit	0	1		0	1
INTELL-	intellexi	0	1		0	1
	intelligebant	0	1		0	1
				total	0	1
INTERPELL-	interpellabit	0	1		0	1
	interpellavit	0	2		0	1
				total	0	1
INTRASS-	intrasse	0	1		0	1
	intrassemus	0	1		0	1
	intrasset	0	1		0	1
				total	0	1
ISSIM-	acutissima	0	1		0	1
	ambitosissime	0	1		0	1
	crassissimis	0	1		0	1
	crudelissimae	0	1		0	1
	delicatissimam	0	1		0	1
	insulsissimus	0	1		0	1
				total	0	1
ISSE-	constitisset	0	1		0	1
	poposcisset	0	1		0	1
	respondisset	0	1		0	1
	venisse	0	1		0	1
				total	0	1
	iussit	0	5		0	1
	lassatus	0	1		0	1
	mallemus	1	0		1	0
	matteae	0	1		0	1
	melle	0	1		0	1
	millibus	0	1		0	1
	misello	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > x	x > y
	miserrimi	1	0		1	0
	mullos	0	1		0	1
	occidi	0	1		0	1
	occupavit	0	1		0	1
	occurit	0	1		0	1
	offendit	0	1		0	1
	officio	0	1		0	1
	ossiicula	0	1		0	1
	passis	0	1		0	1
	percussit	0	1		0	1
PILL-	pilleata	0	1		0	1
	pilleatus	0	1		0	1
	pilleum	0	1		0	1
				total	0	1
	pinna	0	1		0	1
	pollices	0	1		0	1
	porrexit	0	1		0	1
	potuisse	0	1		0	1
	pullum	0	1		0	1
	quassis	0	1		0	1
	sacco	0	1		0	1
	sagittarium	1	0		1	0
SCINTILL-	Scintilla	0	3		0	1
	Scintillae	0	2		0	1
				total	0	1
	scissa	0	1		0	1
	siccare	0	1		0	1
	sobriissi	0	1		0	1
	succiente	0	1		0	1
	succincta	0	1		0	1
	summa	0	1		0	1
	surrexit	0	1		0	1
	taeterrima	0	1		0	1
	terram	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
TERR-	conterritus	1	0		1	0
	interrogare	1	0		1	0
	interrogavi	1	0		1	0
				total	1	0

Degemmination						
Dialogue						
Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
ACCED-	accede	0	1		0	1
	accedit	0	1		0	1
				total	0	1
ACCIP-	acceperant	0	1		0	1
	accepi	0	1		0	1
	acceptus	0	1		0	1
	accipere	0	1		0	1
	accipiam	0	2		0	1
				total	0	1
	alligatam	0	1		0	1
ANN-	annis	0	1		0	1
	annos	0	3		0	1
				total	0	1
	apparent	0	1		0	1
	appellatur	0	1		0	1
	armillam	0	1		0	1
	assem	0	4		0	1
	bacciballum	0	1		0	1
BELL-	belle	0	1		0	1
	bellum	0	1		0	1
				total	0	1
	buccae	0	1		0	1
	caccabo	1	0		1	0
	caccitus	0	1		0	1
	cappadocem	1	1		0.5	0.5
	capillatus	0	2		0	1

Root	Word	Tokens			Type	
		x > y	x > x		x > y	x > x
	catellam	0	2		0	1
	cellationem	0	1		0	1
	circumminxero	0	1		0	1
	collisa	0	1		0	1
	collocari	0	1		0	1
	commendo	0	1		0	1
	corcillum	0	1		0	1
	correxit	0	1		0	1
	corrotundata	0	1		0	1
CURR-	currat	0	1	total	0	1
	currunt	0	1		0	1
	procucurrit	0	1		0	1
					0	1
	debattuere					
	decessit	0	2		0	1
	decollari					
	dissilio	0	2		0	1
	ecce	0	1		0	1
	efferri	1	0		1	0
	effluant	0	1		0	1
	effundentem					
ESSE-	esse	0	4	total	0	1
	essem	0	1		0	1
	essemus	0	1		0	1
	essent	0	1		0	1
	esses	0	1		0	1
	esset	0	1		0	1
	interesse	0	1		0	1
					0	1
	essedariam	0	1		0	1
	excatarissasti	0	1		0	1
	excellente	0	1		0	1
	fefellitus	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
FERR-	afferri	0	1		0	1
	efferri	0	1		0	1
	inferri	0	1		0	1
				total	0	1
	ferrum	0	1		0	1
	flagellis	0	1		0	1
GALL-	gallina	0	1		0	1
	gallinaceos	0	1		0	1
	gallinaceum	0	1		0	1
	gallinae	0	1		0	1
	gallos	0	1		0	1
	gallum	0	1		0	1
	gallus	0	1		0	1
				total	0	1
	gessi	0	1		0	1
HABINN-	habinna	0	2		0	1
	habinnas	0	1		0	1
	habinnae	0	1		0	1
	habinnamque	0	1		0	1
				total	0	1
HORR-	horreum	0	1		0	1
	horribilem	0	1		0	1
	inhorruerunt	0	1		0	1
				total	0	1
ILL-	illa	0	5		0	1
	illac	0	1		0	1
	illam	0	6		0	1
	ille	0	6		0	1
	illi	0	10		0	1
	illis	0	1		0	1
	illius	0	10		0	1
	illo	0	1		0	1
	illoc	0	1		0	1
	illos	0	1		0	1
	illud	0	1		0	1
	illum	0	14		0	1
				total	0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	immo	1	3		0.25	0.75
ISSIM-	carissime	0	1		0	1
	frugalissimum	0	1		0	1
	nequissimus	0	1		0	1
	stultissime	0	1		0	1
				total	0	1
ISSE-	cecidissent	0	1		0	1
	coniecisse	0	1		0	1
	duxissem	0	1		0	1
	habitasse	0	1		0	1
	noluisses	0	1		0	1
	praeterisset	0	1		0	1
	putasses	0	1		0	1
	sufflasses	0	1		0	1
	tulisse	0	1		0	1
	vindicasset	0	1		0	1
				total	0	1
IUSS-	iussi	0	2		0	1
	iussit	0	1		0	1
				total	0	1
	lamellulas	0	1		0	1
	mammea	0	1		0	1
	massa	0	1		0	1
	matella	0	1		0	1
MILL-	mille	0	1		0	1
	millesimis	0	1		0	1
	millia	0	1		0	1
				total	0	1
MISS-	admissus	0	1		0	1
	dimissus	0	1		0	1
				total	0	1
MITT-	manumitto	0	1		0	1
	mittes	0	1			
	permittis	0	1			
				total	0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	misella				0	1
	molle				0	1
	muttes	1	0		1	0
NARR-	narra	0	2		0	1
	narrabo	0	2		0	1
	narrare	0	1		0	1
	narras	0	1		0	1
				total	0	1
	nosse	0	1		0	1
	nullum	0	1		0	1
NUMM-	mummorum	0	1		0	1
	nummos	0	3		0	1
				total	0	1
	occidit	0	1		0	1
	officium	0	1		0	1
	opponerent	0	1		0	1
	oppresserit	0	1		0	1
	ossa	0	2		0	1
	parram	0	1		0	1
PECC-	peccat	0	2		0	1
	peccavit	0	1		0	1
				total	0	1
	percussores	0	1		0	1
	pessum	0	1		0	1
	posset	0	1		0	1
POSSID-	possideo	0	1		0	1
	possides	0	1		0	1
				total	0	1
PUELL-	pullae	0	1		0	1
	puellarius	0	1		0	1
				total	0	1
	pulcherrimum	0	1		0	1
	quattuor	2	0		1	0
	recorrexit	0	1		0	1
	redde	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	reliquisse	0	2		0	1
	reporrigere	0	1		0	1
	sacculo	0	1		0	1
	sagittario	1	0		1	0
	scintillet	0	1		0	1
	scintilla	0	1		0	1
	semissem	0	1		0	1
	sectorium	0	1		0	1
	sicca	0	1		0	1
SUMM-	summa	0	3			
	summam	0	4			
				total	0	1
	supponi	0	1		0	1
TERR-	terra	0	2		0	1
	terrae	0	1		0	1
				total	0	1
TOLL-	tollere	0	2		0	1
	tollunt	0	1		0	1
				total	0	1
	ullum	0	1		0	1

Merger of [e:] and [i] at [e]						
Narrative						
Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	affabilitate	0	1		0	1
	ambitiosissime	0	1		0	1
	amictus	0	1		0	1
	armillas	0	1		0	1
	arripuit	0	1		0	1
	capistris	0	1		0	1
CIB-	cibos	0	2		0	1
	cibum	0	1		0	1
				total	0	1
	cicer	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	cingillo	0	1		0	1
CIPI-	accipimus	0	1		0	1
	exciperem	0	1		0	1
				total	0	1
CIRC-	circa	0	2		0	1
	circulatum	0	1		0	1
	circulis	0	1		0	1
	circulos	0	1		0	1
	circumlatae	0	1		0	1
				total	0	1
	cito	0	1		0	1
	codicillos	0	1		0	1
	continuo	0	1		0	1
	delicias	0	1		0	1
DIS-	discumbebat	0	1		0	1
	discurrentem	0	1		0	1
				total	0	1
	elixus	0	1		0	1
FIC-	artificium	0	1		0	1
	efficerent	0	1		0	1
				total	0	1
FAMIL-	familia	0	2		0	1
	familiam	0	1		0	1
	matrifamiliae	0	1		0	1
				total	0	1
FICTIL-	ficilem	0	1		0	1
	fictiles	0	1		0	1
				total	0	1
	fides	0	1		0	1
	filicionem	0	1		0	1
	gesticulatus	0	1		0	1
	harundinibus	0	1		0	1
	hinc	0	1		0	1
ILL-	illa	0	2		0	1
	ille	0	5		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
ILL-	illi	0	2		0	1
	illinc	0	1		0	1
	illuc	0	1		0	1
				total	0	1
	imitatus	0	2		0	1
	indiligentiam	0	1		0	1
	indulgentiae	0	1		0	1
INQU-	inquam	0	1		0	1
	inquit	0	31		0	1
				total	0	1
	intellexi	0	11		0	1
	inter	0	4		0	1
	interim	0	3		0	1
	ipse	0	4		0	0
	is	0	1		1	1
ISSE-	coisse	0	1		0	1
	constitisset	0	1		0	1
	crassissimis	0	1		0	1
	crudelissimae	0	1		0	1
	delicatissimam	0	1		0	1
	praeterisset	0	1		0	1
	potuisse	0	1		0	1
	respondisset	0	1		0	1
				total	0	1
ISSIM-	ambitiosissime	0	1		0	1
	insulsissimus	0	1		0	1
	libentissime	0	1		0	1
	nequissimus	0	2		0	1
	pinguissimam	0	1		0	1
	prudentissimus	0	1		0	1
	putidissimam	0	1		0	1
				total	0	1
	ita	0	1		0	1
	itaque	0	1		0	1
	lauticias	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	librum	0	1		0	1
	licuit	0	1		0	1
	linguam	0	1		0	1
	magis	0	1		0	1
	minimo	0	1		0	1
	nigris	0	1		0	1
	nisi	0	2		0	1
	occidi	0	1		0	1
	pilleata	0	1		0	1
	pingui	0	1		0	1
	pinna	0	1		0	1
	piperato	0	1		0	1
PISC-	piscem	0	1	total	0	1
	pisces	0	2		0	1
	pisciculam	0	1		0	1
					0	1
	praecipiti	0	1		0	1
	quicquam	0	1		0	1
	quid	0	2		0	1
	quidem	0	3		0	1
	reliqua	0	1		0	1
	respiciens	0	2		0	1
	restrictis	0	1		0	1
	reticulum	0	1		0	1
SCINT-	scintilla	0	2	total	0	1
	scintillaeque	0	2		0	1
					0	1
	simile	0	1		0	1
	singulae	0	1		0	1
	statim	0	3		0	1
	subinde	0	2		0	1
	succincta	0	1		0	1
	sustinere	0	1		0	1
	terebinthina	0	1		0	1
	testiculos	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	timida	0	1		0	1
	tolerabilia	0	1		0	1
	tubicines	0	1		0	1
	viri	0	1		0	1
VIT-	vitulum	0	0		0	0
	vitulus	1	1		1	1
				total	0	1

Merger of [e:] and [i] at [e]						
Dialogue						
Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	adhibete	1	0		1	0
	admissus	0	1		0	1
	amictus	0	1		0	1
	armillam	0	1		0	1
	auriculas	0	1		0	1
	basilica	0	1		0	1
	biberunt	0	1		0	1
	bis	0	2		0	1
	ciceronem	0	1		0	1
	cingulo	0	1		0	1
CIP-	accipere	0	1		0	1
	accipiam	0	2		0	1
				total	0	1
CIRC-	circa		2			
	circumminxero		1	total	0	1
	cito	0	3		0	1
	contingat	0	1		0	1
CUBIC-	cubacula	0	1		0	1
	cubiculum	0	1		0	1
				total	0	1
	dicta	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
DIGN-	dignitosso	0	1		0	1
	dignus	0	1		0	1
				total	0	1
	dimidias	0	1		0	1
	Disticon	0	1		0	1
	dominicum	0	1		0	1
FAMIL-	familia	0	2		0	1
				total	0	1
	fericulus	0	1		0	1
FIC-	aedificias	0	1		0	1
	beneficium	0	1		0	1
	officium	0	1		0	1
				total	0	1
FID-	fidem	0	1		0	1
	fides	0	1		0	1
				total	0	1
	filicem	0	1		0	1
	horribilem	0	1		0	1
	hospitium	0	2		0	1
	ibi	0	1		0	1
	ignes	0	1		0	1
ILL-	illa	0	6		0	1
	illam	0	6		0	1
	ille	0	6		0	1
	illi	0	8		0	1
	illis	0	1		0	1
	illius	0	10		0	1
	illo	0	2		0	1
	illos	0	3		0	1
	illud	0	1		0	1
	illum	0	13		0	1
				total	0	1
	immo	0	3		0	1
	indica	0	1		0	1
	inhorruerant	0	1		0	1
	inicia	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
INQU-	inquam	0	1		0	1
	inquit	0	5		0	5
				total	0	1
INTER-	inter	0	9		0	1
	interesse	0	1		0	1
				total	0	1
	interim	0	2		0	1
	intestina	0	1		0	1
INTR-	intra		1			
	intro		1			
				total	0	1
	involaverant	0	1		0	1
	Iphigeniam	1	0		1	0
IPS-	ipsas	0	1		0	1
	ipse	0	7		0	1
	ipsimae	0	1		0	1
				total	0	1
IST-	isto	0	1		0	1
	istoc	0	1		0	1
	istos	0	1		0	1
				total	0	1
	itaque	0	3		0	1
	iterum	0	1		0	1
	lanisticia	0	1		0	1
	lapideos	0	1		0	1
	lauticiae	0	1		0	1
	librum	0	1		0	1
	licet	0	1		0	1
LING-	linguae	0	1		0	1
	linguam	0	1		0	1
				total	0	1
	magister	0	1		0	1
	melissam	0	1		0	1
	minime	0	1		0	1
	ministratoris	0	1		0	1

Root	Word	Tokens			Type	
		x > y	x > x		x > y	x > x
MITT-	mittes	0	1		0	1
	permittitis	0	1		0	1
				total	0	1
	nequiciae	0	1		0	1
	niger	0	1		0	1
	nihil	0	2		0	1
	nisi	0	6		0	1
	occidit	0	1		0	1
	perdiderat	0	1		0	1
	pingas	0	1		0	1
	piper	0	1		0	1
PISC-	pisces	0	1		0	1
	piscibus	0	1		0	1
				total	0	1
	praefiscini	0	1		0	1
	propiciam	0	1		0	1
	providet	0	1		0	1
	quadraginta	0	1		0	1
	quicquid	0	1		0	1
	quid	0	14		0	1
	quis		2			
RELIC/Q-	relictum	0	2		0	1
	relictus	0	1		0	1
	reliquias	0	1		0	1
	reliquit	0	1		0	1
				total	0	1
	reporrigere	0	1		0	1
	rixam	0	1		0	1
	semissem	0	1		0	1
	sicca	0	1		0	1
	sine	0	2		0	1
	sinistra	0	1		0	1
SIN-	sinu	0	1		0	1
	sinum	0	2		0	1
				total	0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
SPIC-	inspiciet	0	1		0	1
	respicias	0	1		0	1
				total	0	1
	statim	0	2		0	1
	stigmam	0	1		0	1
	stricto	0	1		0	1
	strigae	0	2		0	1
	textilem	0	2		0	1
	timeo	0	1		0	1
	titulus	0	1		0	1
	titus	0	1		0	1
	tributarius	0	1		0	1
	triginta	0	1		0	1
	tulit	0	1		0	1
	validius	0	1		0	1
VID-	vide	0	1		0	1
	video	0	1		0	1
	videre	0	1		0	1
	videtis	0	1		0	1
				total	0	1
	vigilat	0	1		0	1
	viginti	0	2		0	1
	viginti	0	1		0	1
VINC-	vincit	0	1		0	1
	vincitur	0	1		0	1
	vinciturum	0	1		0	1
				total	0	1
	virgine	0	1		0	1
	viridem	0	1		0	1
VITR-	vitream	0	2		0	1
	vitrum	0	1		0	1
				total	0	1

Merger of [o:] and [u] to [o]						
Narrative						
Root	Word	Tokens			Type	
		x > y	x > x		x > y	x > x
	adducti	0	1		0	1
	angustum	0	1		0	1
	anulos	0	1		0	1
	circumdatam	0	1		0	1
	crudelissimae	0	1		0	1
CUB-	cubitum	0	1		0	1
	incubant	0	1		0	1
	incubitum	0	1		0	1
				total	0	1
CULT-	culti	0	1		0	1
	cultrum	0	1		0	1
				total	0	1
	cum	0	7		0	1
CUSS-	discussa	0	2		0	1
	percussit	0	1		0	1
				total	0	1
	discureret	0	1		0	1
	dum	0	2		0	1
	frustrum	0	1		0	1
	fulmen	0	1		0	1
	gustantibus	0	1		0	1
	locusta	0	1		0	1
	mulier	0	1		0	1
	mulionum	1	0		1	0
	mullos	0	1		0	1
	pertundimus	0	1		0	1
	pullum	0	1		0	1
	rotundum	0	1		0	1
	succinente	0	1		0	1
	summa	0	1		0	1
	super	0	9		0	1
	supra	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
SURG-	assurgere	0	1		0	1
	surgere	0	2		0	1
				total	0	1
	tunc	0	1		0	1
	tunica	0	3		0	1
	turdis	0	1		0	1
	ubi	0	1		0	1
ULT-	ultimo	0	3		0	1
	ultimum	0	1		0	1
	ultra	0	2		0	1
	ultro	0	1		0	1
				total	0	1
	umeris	0	1			
	urbis	0	1			
	ut	0	8			
	uxor	0	1			
	vultum	0	1			

Merger of [o:] and [u] to [o]						
Dialogue						
Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	absentivus	1	0		1	0
	adhuc	0	1		0	1
	amasiuncula	0	1		0	1
ANGUST-	angustiis	0	1		0	1
	angusto	0	1		0	1
				total	0	1
	bubulci					
CONTUB-	contubernalem	0	1		0	1
	contubernalis	0	1		0	1
				total	0	1
	crucem	0	1		0	1
	cubitum	0	1		0	1
	cucurbita	0	1		0	1
	cultas	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	cum	0	4		0	1
CUMB-	discumbit	0	1		0	1
	recumbit	0	1		0	1
				total	0	1
	cuminum	0	1		0	1
CURR-	currat	0	1		0	1
	currunt	0	1		0	1
	procucurrit	0	1		0	1
				total	0	1
	decumam	0	1		0	1
CUR-	decuria	0	1		0	1
	decuriam	0	1		0	1
	decuriis	0	1		0	1
				total	0	1
	dum	0	4		0	1
	effundere	0	1		0	1
	fugit	0	1		0	1
FUND-	fundi	0	1		0	1
	fundos	0	2		0	1
	fundum	0	1		0	1
				total	0	1
	gustum	0	1		0	1
	latifundia	0	1		0	1
	lucrum	0	1		0	1
	Mercurius	0	1		0	1
MULT-	multa	0	1		0	1
	multis	0	1		0	1
				total	0	1
	nocturnae	0	1		0	1
	num	0	1		0	1
	numerus	0	1		0	1
NUMM-	nummis	0	1		0	1
	nummos	0	2		0	1
				total	0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	numquid	0	1		0	1
	nunc	0	7		0	1
	nunquam	0	4		0	1
	nusquam	0	1		0	1
	plumbum	0	1		0	1
	publico	0	2			
	pugnas	0	1		0	1
PUT-	putes	0	2	total	0	1
	puto	0	3		0	1
					0	1
	quicunque	0	1		0	1
RUST-	rustici	0	1	total	0	1
	rusticus	0	1		0	1
					0	1
	rutae	0	1		0	1
	sculpas	0	1		0	1
	scutu	0	1		0	1
	secundum	0	1		0	1
	sepulcro	0	1		0	1
	summam	0	6		0	1
	sumus	0	2		0	1
	sunt	0	1		0	1
	super	0	1		0	1
	supra	0	2		0	1
	sursum	0	1		0	1
	susum	0	1		0	1
	trullas	0	1		0	1
	trunitus	0	1		0	1
TUL-	protulit	0	1	total	0	1
	sustulit	0	2		0	1
	tulisse	0	1		0	1
	tunc	0	2		0	1
	turpe	0	1		0	1
	ubi	0	1		0	1
	ullum	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	uncta	0	1		0	1
	unde	0	1		0	1
	ungues	0	1		0	1
	unquam	0	3		0	1
	usu	0	1		0	1
	ut	0	13		0	1
	uxor	0	1		0	1
	voluptatem	0	1		0	1
VULT-	vultis	0	1		0	1
	vultu	0	1		0	1
				total	0	1

Shift of [e] to [i] in Hiatus						
Narrative						
Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	adeo	0	2		0	1
	aeneum	0	1		0	1
	ammeam	0	1		0	1
	area	0	1		0	1
	balneus	0	1		0	1
	caveam	0	1		0	1
	corneolus	0	1		0	1
	debeo	0	1		0	1
	derideant	0	1		0	1
	eodem	0	2		0	1
	euntes	0	1		0	1
	extraneo	0	1		0	1
	gallinaceum	0	1		0	1
HAB-	habeam	0	1		0	1
	habeas	0	2		0	1
	habeat	0	2		0	1
	habeatis	0	1		0	1
	habeo	0	1		0	1
				total	0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
	ideo	0	1		0	1
	idonea	0	1		0	1
	iubeo	0	1		0	1
	lapideos	0	1		0	1
	leone	0	1		0	1
	mammea	0	1		0	1
ME-	mea	0	1		0	1
	meae	0	2		0	1
	meam	0	1		0	1
	mei	0	1		0	1
	meo	0	2		0	1
	meum	0	3		0	0
	meus	0	1		0	1
				total	0	1
	orreum	0	1		0	1
	pereant	0	1		0	1
	possideo	0	1		0	1
	postea	0	1		0	1
	praeterea	0	3		0	0
	puteatur	0	1		0	1
RIDE-	rideat	0	1		0	1
	rideatur	0	1		0	1
				total	0	1
	soleo	0	1		0	1
	suadeo	0	2		0	1
	timeo	0	2		0	1
	transeat	0	1		0	1
	valeas	0	1		0	1
	videas	0	1		0	1
	vinearum	0	1		0	1
	vitream	0	2		0	1

Shift of [e] to [i] in Hiatus						
Dialogue						
Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
ARGENTE-	argentea	0	1		0	1
	argenteam	0	2		0	1
	argenteas	0	1		0	1
	argenteo	0	1		0	1
	argenteosque	0	1		0	1
				total	0	1
AURE-	aurea	0	1		0	1
	aureolem	0	1		0	1
	aureos	0	1		0	1
	aureum	0	1		0	1
				total	0	1
BALNE-	balneatoris	0	1		0	1
	balnei	0	1		0	1
	balneum	0	1		0	1
				total	0	1
	circumeuntes	0	1		0	1
EU-/EA-	eam	0	1		0	1
	eas	0	2		0	1
	eo	0	1		0	1
	eum	0	1		0	1
				total	0	1
	galeatus	0	1		0	1
	gallinaceus	1	1		0.5	0.5
	lignea	0	1		0	1
	marmoreum	0	1		0	1
	matteae	0	1		0	1
	meum	0	1		0	1
	marmoreum	0	1		0	1
	matteae	0	1		0	1
	meum	0	1		0	1
	noclearia	0	1		0	1
	paleam	0	1		0	1

Root	Word	Tokens		Type		
		x > y	x > x		x > y	x > x
PILLE-	pilleata	0	1		0	1
	pilleatus	0	1		0	1
	pilleum	0	1		0	1
				total	0	1
	praeterea	0	1		0	1
	recreatus	0	1		0	1
	russea	0	1		0	1
	soleatus	0	1		0	1
	stupeo	0	1		0	1

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