

Reconstructing Gavin Douglas’s Translation Practice in the *Eneados* Using a Corpus Linguistic-Based Method

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1 Introduction

One of the main questions in the study of translation is whether something can be translated perfectly. Is a flawless transposition of ideas, style, and context possible across languages? The generally accepted answer to this question is ‘no’—the semantic networks of one language are too complex to be reproduced perfectly by another. However, closer examination of the topic reveals the issue is even more fraught, raising questions such as how a perfect translation is defined, how to evaluate it, and if it is even desirable. Different answers to these questions yield different approaches to translation and different implications as to the nature of meaning and how it is accessed. Some approaches separate meaning from language or from its physical context. Others, like the one pursued here, argue that meaning is multidimensional, created not just by language, but by context and presentation. Therefore, a multidimensional, interdisciplinary method must be adopted when studying translation.

This paper discusses the practical application of such an interdisciplinary method that applies digital tools and resources to the study of medieval translation—specifically Gavin Douglas’s medieval Scottish translation of the *Aeneid*, the *Eneados* (1513). This is the subject of the author’s DPhil project at the University of Oxford, titled *Equivalency, Page Design, and Corpus Linguistics: An Interdisciplinary Approach to Gavin Douglas’s ‘Eneados’* (completed May 2021), which argues that such a method can be indispensable for the study of medieval texts by making larger texts more accessible and offering new perspectives on them. This paper considers a specific study directly from this doctoral work that cross references the evolution of Douglas’s translation method with changes in his source’s layout. Such a comparison reveals a new perspective on Douglas that is relevant to longstanding critical debates on the nature of Douglas’s humanism.

This paper first introduces Gavin Douglas and the *Eneados* and various critical debates regarding his translation method and humanist status. It then discusses the interdisciplinary method adopted here that makes use of a digital resource, designed with reference to descriptive translation studies, corpus linguistics, and philology. This resource is described in detail. A case study is then presented that statistically analyses Douglas’s translation method by means of line ratios—a measure of how many lines Douglas uses to translate one line of Latin—and compares these results

to aspects of layout in Douglas's source text. This paper evaluates these results and reflects on the benefits and challenges of an interdisciplinary method, positing the further potential of this method.

2 Gavin Douglas and the *Eneados*

The *Eneados* (1513) is the first full translation of the *Aeneid* in either the English or Scottish literary tradition. It was written by Gavin Douglas (c. 1475-1522)—a Scottish poet/translator, cleric, and politician, who lived on the cusp of the Middle Ages and the emerging Renaissance, witnessing both the pinnacle of a Scottish 'golden age' under James IV and its demise (not to mention James's) in the disastrous Battle of Flodden (1513). Consequently, characterisations of Douglas tend to hover between oppositions—he is either a denizen of the Middle Ages (Blyth, 1987; Lewis, 1954; Rossi, 1965) or Renaissance (Brewer Hall, 1960; Dearing, 1952; Fox, 1966; Morgan, 1977), a vocal nationalist (Canitz, 1966; Corbett, 1999) or pacifist (Cummings, 1995), and, most relevantly for this article, either a straightforward humanist (Canitz, 1966; Jack, 1972) or a poet to whom 'a "humanist outlook" can only be ascribed ... in a highly qualified way' (Ross, 1986, p.394).

Humanism is generally understood as 'the study and imitation of classical antiquity' (Wakelin, 2007, p.7). Based on the first part of this definition—the *study* of classical antiquity involving 'a self-conscious commitment to return to the classics' (8)—Douglas's activities definitely apply. As Jack (1972, p.21) argues, 'the very fact of translating Virgil's epic indicates an interest in the humanist ideals'. Johnson and Petrina, (2018, p.x) essentially repeat this argument when they state that the purpose of the *Eneados* was 'to discover the continuity between Latin culture and its Scottish counterpart'.

However, Douglas's tendency to expand on the original text and insert his own original poetry does not at first sight match the second criterion—'imitation'. Throughout the thirteenth century and into the beginning of the fourteenth, there were a series of Italian humanist debates about the value of *imitatio* with arguments over whom to imitate (several models vs. a single model, usually Cicero), what to imitate (genre, content, or style), and what quality authors should strive for (variety vs. consistency) (McLaughlin, 1996) (see McLaughlin, 1996). Eventually (c. 1512) this argument was settled by Bembo (1470-1547) in favour of single-model imitation valuing the replication of Cicero's style that prioritised consistency (see McLaughlin, 1996, pp.262-74).

It is immediately apparent that Douglas does not subscribe to Bembo's position. While Douglas's translation is notable for its extreme fidelity to the *Aeneid*, even replicating the orthography and errors in his source—Ascensius's (1501) Paris edition of the complete works of Virgil (Ink. 4. D 7672, UB Freiburg, 1501; see Bawcutt, 1973)—the *Eneados* is also famous for its lengthy interventions in the original text of the *Aeneid*. These include original Prologues to each book, as well as a thirteenth book (translated from the *Supplement*, 1428, by Maffeo Vegio, included in Ascensius's 1501 edition), an original commentary (restricted to Prologue I and Book I; referred to here as the *Comment*), and supplementary material throughout his translation that makes it more than twice as long as the original (9,867 vs. 21,047 lines, excluding Book XIII and paratext). While some of this expansion might be attributed to the fact that Douglas uses iambic pentameter, which is a shorter line than Virgil's dactylic hexameter (see Macafee, 2013, p.231), much of it also derives from his original interpolations in the text, which consist of authorial asides, internal glosses, doublets and triplets, and even

at times poetic flourishes that can make up several lines (see *Aen.* V.429/*Ene.* V.8.10-17 for a particularly extreme example of this). In this way, Douglas does not replicate Virgil's style—he does not recreate Virgil's prosody or eloquent terseness.

Douglas's humanist status is further complicated by Scotland's own uncertain humanism during his lifetime. Printing, a key engine of humanist activity, started late in Scotland and was initially sporadic, with Chepman and Myllar's press operating only briefly from 1507-10 (see Dickson, 1885, pp.9-10). However, despite this, or perhaps because of it, Scotland had strong links with the Continental book trade, which Ford, (1999,p.221) argues indicate strong Scottish interest and 'participation in pressing debates of the time'—predominantly religious ones, but also, ostensibly, humanist. Likewise, while there is no discernible Greek influence (again, a hallmark of humanism) prevalent in Douglas's time (see MacQueen, 1990, p.10), Jack (1972) observes a strong Latin and Italian humanist influence on Scottish authors and libraries. Indeed, Douglas himself proves to be highly engaged in Italian humanist authors, referencing them numerous times in his earlier work, the *Palice of Honour* (c. 1501), and proving to have intimate knowledge of some works by Boccaccio (1313-75), Valla (1407-57), and Landino (1424-98) in his statements in the Prologues and Comment (Bawcutt, 1977, pp.117-18).

As a result of this rather mixed humanist profile, where Douglas's activities and context do not appear to perfectly align with humanist sensibilities, many scholars—especially Gray (1989, 2001, 2012)—have been hesitant to outrightly classify Douglas as a humanist. Rather, his humanism has been qualified with such labels as 'vernacular' (Bawcutt, 1976, p.36), 'medieval' or 'old' (Gray, 1989, 2001), 'Christian' ((Gray, 2012)), and 'Romantic' (Fowler, 2005). However, it is this paper's contention that the confusion about Douglas's humanist status is rooted in his translation method, which has eluded comprehensive description on account of the inscrutability of the *Eneados*.

The *Eneados* is incredibly long—again, twice longer than the original. As a result, previous studies have generally been very selective, focusing on only one or two Books (Blyth, 1987), or just the Prologues (Archibald, 1980; Ebin, 1980; Nitecki, 1981), or certain types of passage within the *Eneados* (Macafee, 2013; Ridley, 1983). While many of these selection processes are intelligently justified, it is hard to have a complete sense of Douglas's method of translation if only part of the work is analysed. Even those who have covered the entirety of Douglas's work (Bawcutt, 1976; Watt, 1920) have not characterised Douglas's translation at different points within the work, instead treating his method as a monolith—though Bawcutt's account is nevertheless excellent and a helpful critical foundation.

This paper provides a new perspective on this debate by analysing the entirety of the *Eneados* using an interdisciplinary method that makes use of digital tools. Such a method provides a single unified analysis of the *entirety* of the *Eneados* that is rooted in both literary and quantitative analysis. The quantitative analysis produces a 'map' of the *Eneados* that can make the researcher more aware of the broader context of Douglas's work, while at the same time providing the means to more discriminately select aspects of the text for literary and qualitative analysis. In the case of this study, this method reveals an evolution in Douglas's translation method that correlates with changes in his source text's presentation, which indicates a greater interest in formal aspects of translation—i.e. *imitatio*—than generally granted. This, in turn, strengthens Douglas's humanist credentials.

3 An Interdisciplinary Method

This project combines three subjects—descriptive translation studies (DTS), corpus linguistics, and philology—to study Gavin Douglas’s translation of the *Aeneid*. DTS is a branch of translation studies whose aim is ‘to describe the phenomena of translating and translation(s) as they manifest themselves in the world of our experience’ (Holmes, 1987, p.15). When identifying a work as a translation, DTS always assumes that there is a source text, a transferral process from the source text to the translation, and a tangible relationship between the translation and the original (Toury, 2012, pp.29-30). The recovery of this transferral process is one of the aims of DTS, and one of its main assumptions is that there is some form of equivalency between source- and target-text linguistic choices.

There are several different approaches to how this equivalency might be understood, which might best be characterised as different permutations of two concepts: that translation is concerned with surface-level linguistic structures, and that translation involves the transformation of larger cultural concepts (see Baker, 1992, pp.5-6). Modern and medieval critics have emphasised the importance of translation as a cultural enterprise, with modern scholars advising a ‘target-oriented approach’ that focuses on the target-language’s cultural context (see Vermeer, 1987, p.29; Toury, 2012, p.18) and medieval scholars advocating ‘sense for sense’ translation, as opposed to ‘word for word’ (see Copeland, 1991). Nevertheless, the importance of cultural context within the function of translation does not fully supplant its linguistic aspects. Cultural concerns dictate a translation’s linguistic realisation, which, in turn, selects the appropriate translation strategies (see Toury, 2012, p.7, fig.2). In this way, translation processes and linguistic manifestations of a translation can be used to reverse-engineer cultural contexts.

This work attempts to do this using corpus linguistics. As Toury, (2012, pp.243-44) notes, ‘it is precisely in the lexicon that the distinctiveness of a language variety used for the formulation of translations is most conspicuous’. Corpus linguistics provides a means of detailed analysis of a text’s lexis by using a computer to find and count occurrences of certain words and analyse their contexts using statistics (see Fantinouli and Zanettin, 2015 for examples of such methods). Using this method, source texts and translations can be aligned to measure equivalency by means of parallel concordancing, where a translated text and its source can be searched simultaneously. This enables researchers to retrieve replacing and replaced segment pairs and analyse them on a large scale. Moreover, it enables statistical analysis, which not only helps illustrate general trends in the translation’s process, but also indicates what aspects of the text deserve closer examination. In this way corpus linguistics can provide a different perspective on translated texts and streamline existing methodologies. In so doing it provides ‘descriptions far above what we live with at present’ (Sinclair, 2005, p.81).

However, a major flaw in the kind of description corpus linguistics provides is that it is intrinsically divorced from its context. By its very nature, corpus linguistics looks at language beyond its physical form (see Meurman-Solin, 2001, p.8, p.20). This can be a huge oversight when studying a translation—particularly a medieval one—as more researchers (see Weitemeir, 1996, pp.101-02; Smith and Kay, 2011, p.212; Kallendorf, 2015, p.4; Peikola et al., 2017) acknowledge the importance of textual transmission in understanding a translator’s reception and understanding of a text. This is especially vital when studying medieval and early modern texts, when many of the choices regarding book production and formatting ‘had not yet been standardised’

(Moore, 2017, p.23). Consequently, how a translation is presented can be an important consideration in how a translation is produced and should be factored into analysis. Such a practice has been labelled as ‘historical pragmatics’ or ‘pragmaphilology’ by Jucker (1995), ‘philological computing’ by Meurman-Solin (2001a), and ‘historical pragmatics’ by Smith (2013). The result is a method that is grounded in the specifics of the text, but also enhanced by an awareness of the text as a whole—not only in terms of a statistical profile of its features, but also in terms of its material attributes, and its historical context.

4 The *Eneados* and *Aeneid* Digital Files

To achieve this method, a collection of digital files has been assembled using corpus linguistic methods (Bushnell, 2019a; 2019b). It is not strictly a corpus, as it is made of just one text and its source material rather than several—rather it is a ‘corpus-based apparatus’. It contains all thirteen Books and Prologues of the *Eneados*, along with the twelve books of the *Aeneid* and the *Supplement*. It does not contain any of the commentary included in Ascensius’s (1501) edition, as the transcription and digitisation of this massive commentary was beyond the scope of this project. It comprises of 39 base files that cover three authors (Virgil, Maffeo Vegio, and Gavin Douglas), three texts (the *Aeneid*, *Supplement*, and *Eneados*), and two languages (Latin and Scots), consisting of 259,347 words total (see Table 1). The corpus is available online on Oxford’s *CQPweb* platform (Hardie, 2012).

Table 1: Breakdown of the base files of the ‘corpus-based apparatus’ (Bushnell, 2019a, 2019b). Word counts are based on plain files—no line numbers, titles, annotation or tagging have been counted.

| | | Language | | Latin | | Scots | | | |
|------------|-------------|-----------|--------|---------------|--|-------------------|---------|----------------|--|
| | | Author | | Virgil | | Maffeo Vegio | | Gavin Douglas | |
| | | Text | | <i>Aeneid</i> | | <i>Supplement</i> | | <i>Eneados</i> | |
| | | File Type | | Book | | Book | | Prologue Book | |
| | | | | | | | | Total | |
| Word Count | File Number | I | 5,046 | | | 3,892 | 10,351 | | |
| | | II | 5,119 | | | 146 | 11,215 | | |
| | | III | 4,631 | | | 353 | 10,789 | | |
| | | IV | 4,587 | | | 2,070 | 10,889 | | |
| | | V | 5,689 | | | 518 | 12,764 | | |
| | | VI | 5,956 | | | 1,299 | 14,838 | | |
| | | VII | 5,176 | | | 1,233 | 13,886 | | |
| | | VIII | 4,530 | | | 1,473 | 12,211 | | |
| | | IX | 5,411 | | | 740 | 14,272 | | |
| | | X | 5,910 | | | 1,351 | 16,837 | | |
| | | XI | 5,925 | | | 1,533 | 16,157 | | |
| | | XII | 6,215 | | | 2,196 | 17,773 | | |
| | | XIII | | | | 1,543 | 10,760 | | |
| | | Total | 64,195 | 4,063 | | 18,347 | 172,742 | 259,347 | |

The digital files' sources include Coldwell's (1957-64; 4 vols) edition of the *Eneados* (accessed via *Literature Online*) and Ascensius's (1501) edition of the *Aeneid*—previously established as Douglas's source text when translating. However, Greenough's (1902; 2 vols) edition of the *Aeneid* (accessed via the *Perseus Digital Library*, Crane, c. 1987-2021) and Brinton's (1930) edition of the *Supplement* (accessed via *Virgil.org*, Wilson-Okamura, 2014) were also used as a base transcription and then modified to reflect the orthography, punctuation, and content of Ascensius's text. Coldwell's text was selected because it is the most reliable edition of the *Eneados* that is currently available, though will soon be superseded by Bawcutt's (2020; 3 vols) edition, once that is fully released. It is based on the Trinity College MS (O.3.12, Trinity College, University of Cambridge, 1513), which is the closest to being an exemplar out of the five extant manuscripts of the *Eneados* (Elphynstoun MS, Dk.7.49, University of Edinburgh, 1527; Ruthven MS, Dc.1.43, University of Edinburgh, pre-1584; Lambeth MS, 117, Lambeth Palace Library, 1545; and the Bath MS, 252A, Longleat, 1547). Greenough's (1897-1902) and Brinton's (1930) texts were selected because they were already digitised and easily accessible.

The digital files are available as plain text or as XML files. The plain files represent the text without any metadata whatsoever. The XML files are enhanced with several levels of metadata that describe the text's layout, demarcate narrative and speech boundaries, and indicate equivalent segments between the Latin and Scots. This annotation has been implemented manually and both the Latin and Scots files are annotated. The files are also tagged with normalised (and modernised, where appropriate) lexical forms, and part-of-speech and semantic labels. The normalised and modernised forms have been supplied manually, whereas the part-of-speech and semantic tagging was provided by the USAS tagger (see Archer et al., 2003). This tagging is only provided for the Scots files.

The metadata most relevant for this specific case study is the layout and alignment annotation. Three types of layout are represented in these files: Douglas's *ordinatio* (how he breaks up his text into chapters and books), Ascensius's *ordinatio* (how he breaks up his text into sections and books), and page divisions in Ascensius's edition. The page breaks in the Trinity MS—widely accepted being closest to an exemplar out of available manuscripts of the *Eneados*—are not represented, because while the number of lines on each page in Ascensius's (1501) edition differs wildly over the course of the text, it is more consistent in the Trinity manuscript, where approximately 40 lines appear on every page. As previously intimated, Ascensius divides the *Aeneid* into smaller chunks, which, at least initially, are confined by the page, making page breaks analogous to section boundaries. However, page breaks in the Trinity manuscript carry no such weight. Moreover, page breaks and page layout in general in the Trinity manuscript were probably at the discretion of Matthew Geddes, the scribe of the Trinity MS and Douglas's secretary, rather than Douglas himself. Ascensius's page layout, on the other hand, is original to him, as he was the compiler of his edition and printed it in partnership with Thielman Kerver and Jean Petit.

Alignment annotation was implemented by breaking the *Aeneid* and *Eneados* into translation units. A translation unit here is defined as whole lines (barring interference from layout) of the source and translation that correspond to one another so that the source is completely translated, and the translation is completely accounted for, and that cannot be broken down into smaller units of complete translation that also are contained within whole lines (barring interference from layout). The following would be considered a translation unit where one line of Latin is completely translated by four lines of Scots:

Tum decuit cum scaeptra dabas: en dextra fidesque ... (Virgil, 1501: IV.597)

'... Sa til haue done than had bene mair ganand
Quhen thou hym gave the ceptour of thi land.
Ha! now behald hys gret prowes', quod sche,
'Hys reuthful piete and faith! Is not ʒon he ... ' (Douglas 1957-64: IV.11.23-26)

The texts were aligned by line since they are both poems and their lines are distinct units of expression. While, as noted previously, the lines in the *Aeneid* and *Eneados* are of different lengths, they at least have a functional equivalency between the two poems, are at stable lengths, and are established components within poetry. These factors make them the best units of measurement. However, it must be remembered that neither Douglas nor Virgil necessarily composed using lines as a unit of meaning.

5 The Impact of Ascensius's (1501) Edition on Douglas's Evolving Translation Method

As previously explained, Douglas's translation method has eluded comprehensive description. This is partly because of how critics have approached the *Eneados*, but also because of the seemingly contradictory nature of Douglas's translation. Douglas appears to "'tie ... himself'" to the original to such an extent 'as to lose his artistic freedom' (Petrina, 2013, p.24), yet at the same time seems perfectly untroubled exercising his poetic license by expanding on Virgil's text when translating. Even his conception of his practice is contradictory. In Prologue I, Douglas makes clear that he does not pursue 'word for word'—ostensibly literal—translation, making entreaties like 'I pray ʒou note me nocht at euery word' (Douglas, 1957-64, I.Prol.126). However, he later declares in his Direction (ll. 44-46)—a postscript addressed to his patron—that readers can compare his translation to its source and account for almost every word.

Fortunately, the process of aligning digital files of the *Aeneid* and *Eneados* has created a means of measuring the distance between the original text and translation via line ratios—the measure of how many lines Douglas uses to translate one line of Latin. These effectively measure how closely Douglas mimics surface level structures in the original Latin text—specifically the length of clauses. Out of the 6,311 translation units in the *Eneados*, 54% have a line ratio with the value of 2 ($p < 0.001$, pairwise proportion test), with usually 1 line of Latin being translated with 2 lines of Scots (70%, $p < 0.001$, pairwise proportion test). This confirms Bawcutt's (1974, p.57) claim that, for Douglas, 'the couplet often corresponds to a single hexameter' and suggests that Douglas translated line-by-line.

Such practice is conducive for literal translation—understood here as a translation that follows the syntax of its source very closely—as it forces the translator to maintain the order of content in the poem and encourages the preservation of the original grammar, whereas larger translation units enable a less meticulous approach to translation (i.e. paraphrase). For example, the following translation unit features a line ratio of 1.88, which does not indicate an especially expansive translation. However, the unit itself is very large (15:8) indicating that rather than translate this instance line-by-line, Douglas decided to translate part of Aeneas's defence when reproached by Dido as a block. While this is not an inappropriate decision, considering that these lines feature several incidents of enjambment, suggesting that they are meant to be read together, this is an unusual decision for Douglas, who structures his translation around single lines of Latin 56% of the time ($p < 0.001$, pairwise proportion test), even though Virgil's

lines are not always designed to stand alone in this way.

Pro re pauca loquar: nec ego hanc abscondere furto
Speravi: ne finge fugam: nec coniugis vnquam
Praetendi tēdas: aut haec in foedera veni.
Me si fata meis paterentur ducere vitam
Auspiciis: et sponte mea componere curas
Vrbem troianam primum dulcesque meorum
Reliquias colerem: et priami tecta alta manerent.
Et recidiua manu posuissem pergama victis: (Virgil, 1501, IV.337-44)

'... As the mater requiris, a litil heris:
I purposyt nocht forto hyde thyftuusly
My vayage, nor, as 3e weyn, secretly
Away to steil; quhat nedis 3ou sa tofeyn?
For I pretendit nevir, be na meyn,
With 3ou to mak the band of mariage,
Nor in that 3ok, ne frendschip in Cartage,
3yt come I nevir: bot gif the fatis, but pled,
At my plesour sufferit me lyfe to led,
At my fre wil my warkis to modyfy,
The cite of Troy than first agane suld I
Restore, and of our deir frendis remanys
Gaddir togiddir, and to the venquist Troianys
Raparal with my handis agane thar wallis,
And beild vp Priamus palyce at now fallis. ...' (Douglas, 1957-64, IV.6.112-26)

In not approaching this passage line-by-line, Douglas can play with the order of things and does not adhere as closely to the syntax of the passage. Every Latin line in this passage is interspersed with another within the Scots translation—except for the last two lines (*Aen.* IV.343-44, *Ene.* IV.6.125-26), which are completely swapped in their order of translation. There is also some paraphrase and doubling that accompanies this rearrangement. For example, Douglas translates 'abscondere' ('to abscond') twice two lines apart as 'forto hyde thyftuusly' (*Ene.* IV.6.113) and 'away to steil' (IV.6.115). Likewise, he paraphrases 'ne finge' ('do not pretend') twice in separate lines—once as 'as 3e weyn' (IV.6.14) and again as 'quhat nedis 3ou sa tofeyn' (IV.6.15). He also arguably translates 'componere' ('to put in order, to gather together') and 'colerem' ('I would take care of') twice. Both are translated initially as 'my warkis to modyfy' and 'The cite of Troy ... suld I / Restore'. However, then Douglas appears to combine the meaning of 'componere' with the subjunctive force of 'colerem' when he has Aeneas declare 'suld I ... of our deir frendis remanys / Gaddir togiddir'. He similarly blurs his translations of 'posuissem' ('I would establish') and 'manerent' ('they would endure'). Not only does he take 'manerent' as a first-person singular form, when it is really third-person plural, but his translation 'beild vp' is arguably more appropriate for 'posuissem', since it suggests the creation of something new, whereas 'reparal', the translation for 'posuissem', implies the restoration of something old. In effect, Douglas takes a case of *dicolon abundans*—a rhetorical trope where Virgil repeats the same idea in a different manner (see Dainotti, 2015, p.35)—and shares vocabulary between the two Latin iterations. He is enabled to do so by translating a larger section of Latin at one time, as this gives him more options for translation. He can decide what content should go together and how the grammar should be interpreted. As result, the syntax of the passage is more loosely rendered.

By contrast, a smaller translation unit produces a far more exact translation. The following example, featuring the Sibyl's instructions to the Trojans, has a high line ratio of 4 (4:1), but the unit itself is small, indicating how Douglas was translating this passage line-by-line (see *Aen.* VI.125-55/*Ene.* VI.2.100-57; average line ratio: 2.9; average number of Latin lines per unit: 1.5).

Duc nigras pecudes: ea prima piacula sunt: (Virgil, 1501, VI.153)

Til his funeral entyre, or sacrifyss,
Do bring the blak bestis, as is the gyss;
Lat tha be 3our first expiationys,
And clenging graith, eftir 3our serymonys. (Douglas, 1957-64, VI.2.151-54)

While this unit features many additions that serve to clarify Sibyl's orders, the translation is grammatically exact so that the imperative verbs 'duc' ('bring') and 'sunt' ('let be') are translated literally. Such translation proves to be the norm for Douglas, as corroborated by a qualitative analysis of Douglas's most expansive (where line ratios are 4 or greater) and succinct (where line ratios are 1 or less) translation units (see Figure 1 for a summary of results).

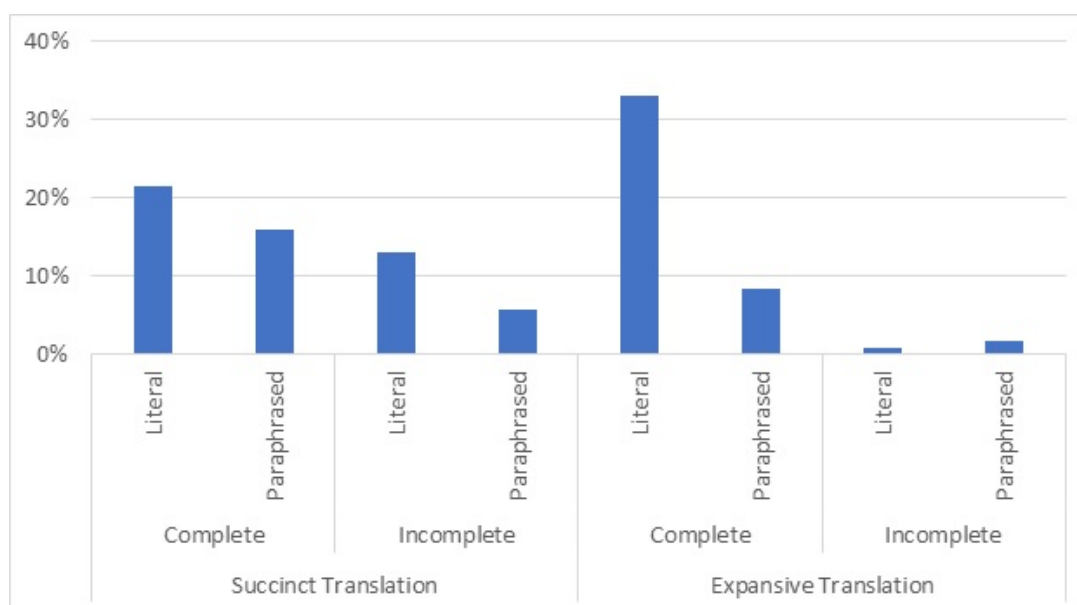


Figure 1: Distribution of four different combinations of literal, paraphrased, complete, and incomplete translation across translation units that have very low (less than or equal to 1) or high (greater than or equal to 4) line ratios. Results are significant according to a chi-square test ($p < 0.001$).

However, while this preference for lengthy, literal translation often characterises Douglas's method, the implementation of 'standard' line ratios and units (where 2 lines of Scots translate 1 line of Latin) is irregular and uneven. A closer look at the line ratios in the *Eneados* reveals a general increase in Douglas's length of translation over the course of the text (Figure 2). This expansion is only partly based off Virgil's own tendencies. While Virgil also becomes more expansive throughout the *Aeneid*, writing longer and longer books, the change is less dramatic (Figure 3). The *Eneados* adds about 59 extra lines per book, while the *Aeneid* adds only 6—in other words, Douglas is almost ten times more prolific than Virgil.

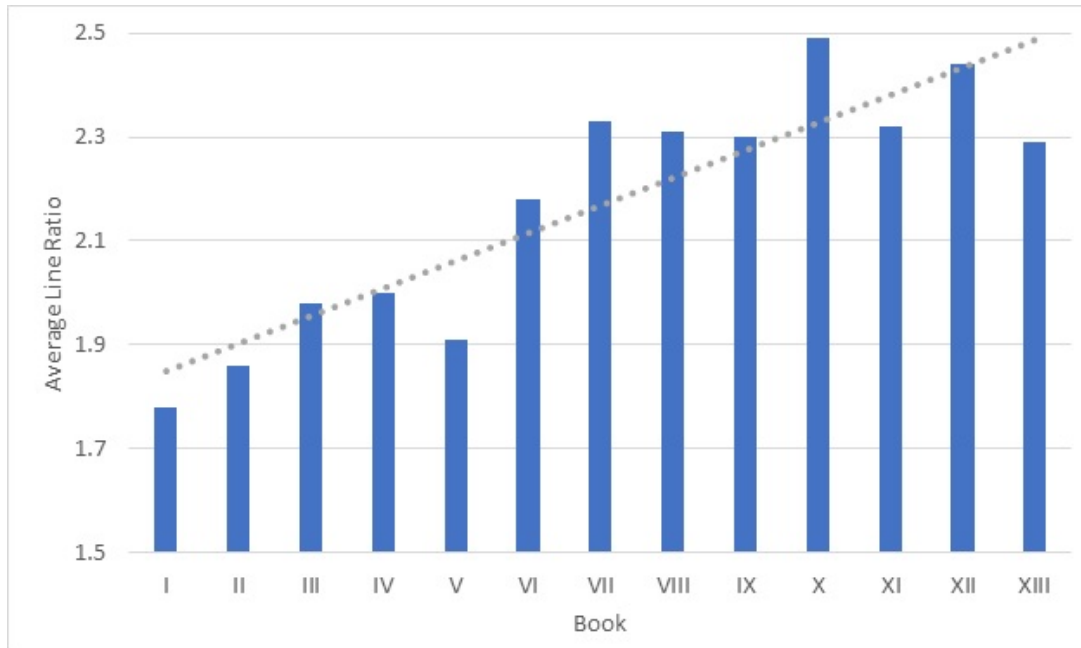


Figure 2: Average line ratios across the thirteen books of the *Eneados* with a descriptive trend line. Results are significant ($p < 0.001$) according to a linear regression performed in R that was tested with an ANOVA.

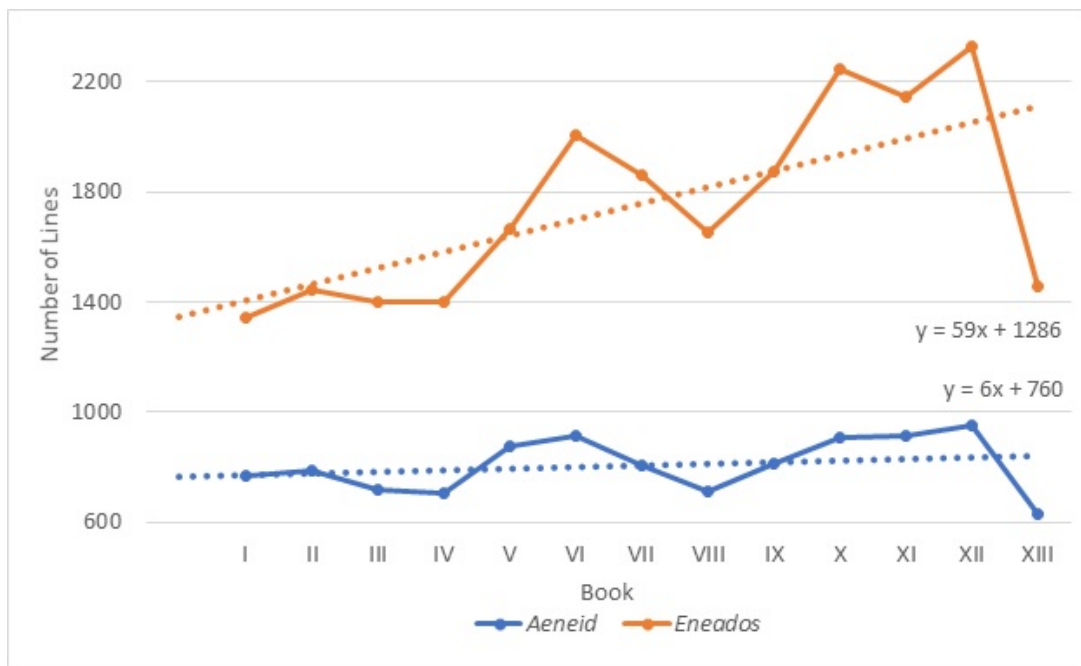


Figure 3: Total number of lines in each book of the *Aeneid* and *Eneados* with linear trend lines and equations. The results are significantly different ($p < 0.001$) according to a t-test.

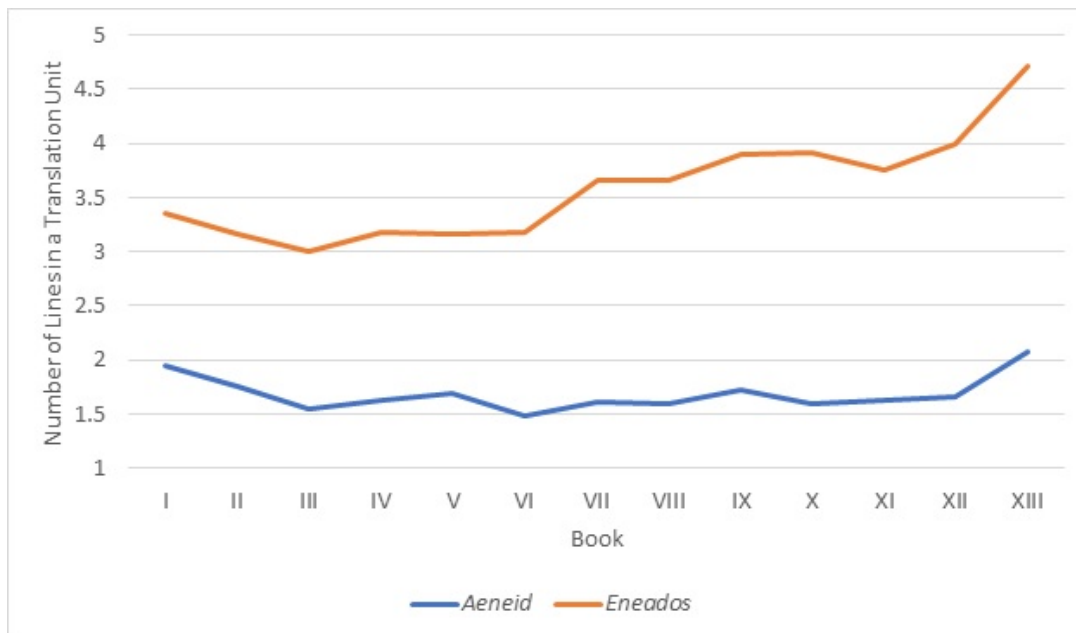


Figure 4: Average number of Latin and Scots lines in every translation unit in every book of the *Eneados*. Results are significant for both Latin and Scots data ($p < 0.001$) according to a linear regression performed in R that was tested with an ANOVA.

Not only do Douglas's line ratios change over the course of the *Eneados*, but the number of Latin and Scots lines per unit changes too (Figure 4). For the most part, the number of Latin lines in each translation unit remains constant around 1.5, indicating that Douglas generally translates on a line-by-line basis. However, in Book I and Book XIII the number spikes to 2, which could indicate an increase in paraphrased translation, as in the example below from Book I where Douglas paraphrases 'olim volentibus annis' ('at long last after years have turned') as 'after this mony a day', 'reuocato a sanguine teucris' ('recalled from the blood of Teucer') as 'of Troianys ofspring', and combines 'ductores' ('princes'), 'qui mare: qui terras omni ditione tenerent' ('who hold the sea, who hold lands with sovereignty') as 'princis of power our sey and land to ryng'.

'... Cunctus ob italiam terrarum clauditur orbis.
Certe hinc romanos olim volentibus annis
Hinc fore ductores: reuocato a sanguine teucris:
Qui mare: qui terras omni ditione tenerent
Pollicitus: quae te genitor sententia vertit? ...' (Vegio, 1501, I.233-37)

'... Throu owt the world debarrit in euery sted
And drevin from Itale? Thou hecht vmquhill, perfay,
Of thame suld cum, efter this mony a day,
The worthy Romanys, and of Troianys ofspring
Princis of power our sey and land to ryng.
Quhat wikkit counsale, fader, has turnyt thi thocht? ...' (Douglas, 1957-64, I.5.16-21)

This less syntactically exact translation might be expected for Book XIII, given that Book XIII draws on the work of a different author (Virgil, 1501) and Douglas's respect for this work is significantly less than that for the *Aeneid* (see Ghosh, 1995, p.7). However, it is surprising that Douglas should have adopted a similar approach to Book I, when he praises Virgil so highly in Prologue I. This suggests that Douglas begins

translating the *Aeneid* in one fashion, but then chooses to pursue a more grammatically exacting one for the rest of the poem. He resurrects this more flexible model only in Book XIII—either because he has less respect for Vegio as a poet or because aspects of Vegio’s text necessitate it. This indicates a general push towards literal translation over the course of the *Eneados*, confirmed by Figure 5.

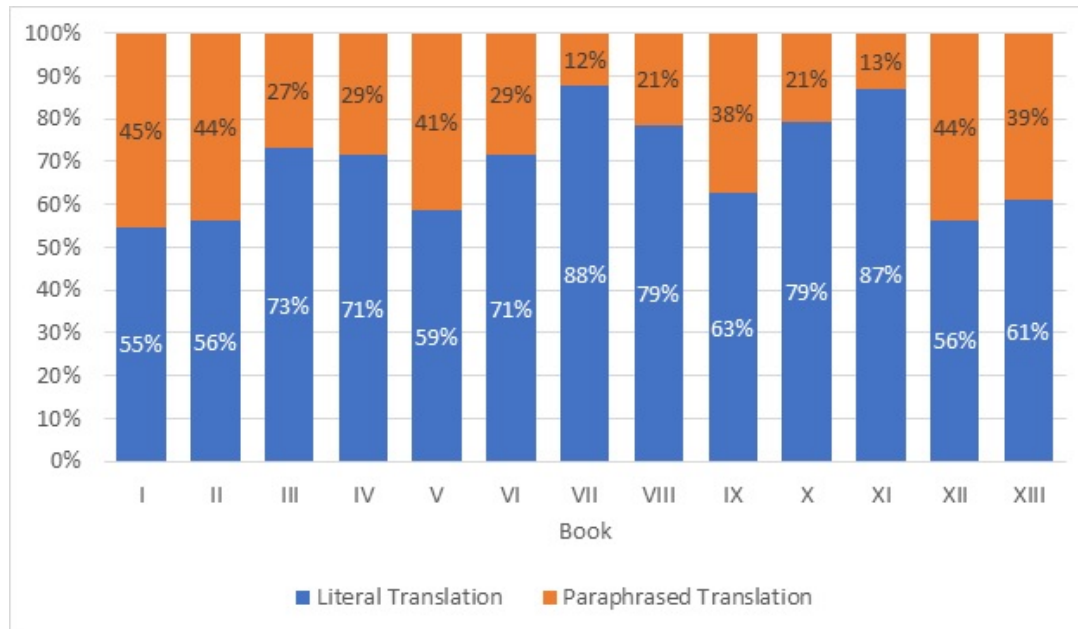


Figure 5: Distribution of literal and paraphrased translation in selected translation units with very low (less than or equal to 1) or high (less than or equal to 4) line ratios in each book of the *Eneados*. Results are significant according to a chi-square test ($p < 0.01$).

Such variation in activity indicates that Douglas’s translation practice evolves, which would mean that translation is not a uniform action even when performed by a single translator for a single text. This would also imply that Douglas translates the *Aeneid* in its textual order. This makes sense, given that translation is essentially a product of reading, and thus dictated by the source text’s *ordinatio*. In fact, this increase in Douglas’s line ratios over the course of the *Eneados* can be attributed to the evolution in the layout of his source text—Ascensius’s (1501) edition.

The layout of Ascensius’s (1501) text is somewhat complex. Excerpts from the *Aeneid* are foregrounded in the page and surrounded by two accompanying commentaries—one by Servius and one by himself (Figure 6). While this was a common way of presenting the text in printed editions of the *Aeneid* of this time, Ascensius’s segmentation of the text is unique in that he endeavours to ensure that his excerpts make grammatical or narrative sense, whereas other editions tend to follow segmentation that is dictated by the commentary rather than the text. In fact, a comparison of the segmentation in Ascensius’s edition to that in six other texts (Virgil, 1487/88; Virgil, 1491-92; Virgil, 1492a; Virgil, 1492b; Virgil, 1492c; Virgil, 1499) reveals only a 9% similarity, whereas the other editions have, on average, a 97% similarity between each other ($p < 0.001$, pairwise proportion test).

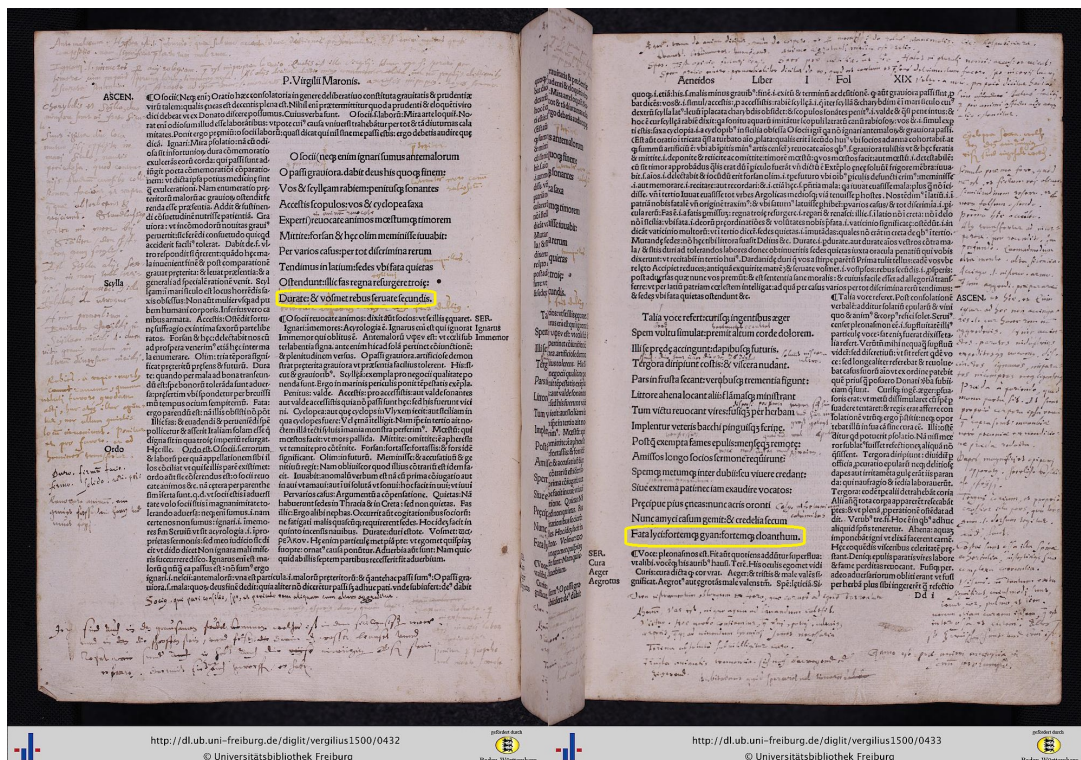


Figure 6: UB Freiburg, Ink. 4. D 7672 fol. 18v-19r, featuring *Aen.* I.198-222; image has been cropped. This is a typical layout in Ascensius's edition for the early books. Lines *Aen.* I.207-08 are highlighted (my edit) to illustrate an example below.

Douglas proves to be sensitive to this aspect Ascensius's layout, structuring his chapters around Ascensius's sections 67% of the time ($p < 0.001$, pairwise proportion test), with two sections on average comprising a chapter—as Bawcutt (1976: 105) estimates. For example, the following chapter break imitates the section break in Figure 7.

... hunc claris dextera factis.
[Section break here.]
Dum turnus rutulos animis audacibus implet. (Virgil, 1501, VII.474-75)

... And sum war eik inducit to the weir
For hie prowes knawin in ilke landis,
And dedis wrocht maste knyghtly with his handis.

[Chapter break here.]
Ascanyus huntand hass a taim hart hurt,
Quhilk was the first moving of strife and sturt.

Quhill Turnus on this wyss, about all partis,
In the Rutilyanys rasy's hardy hartis. (Douglas, 1957-64, VII.8.152-9.2)

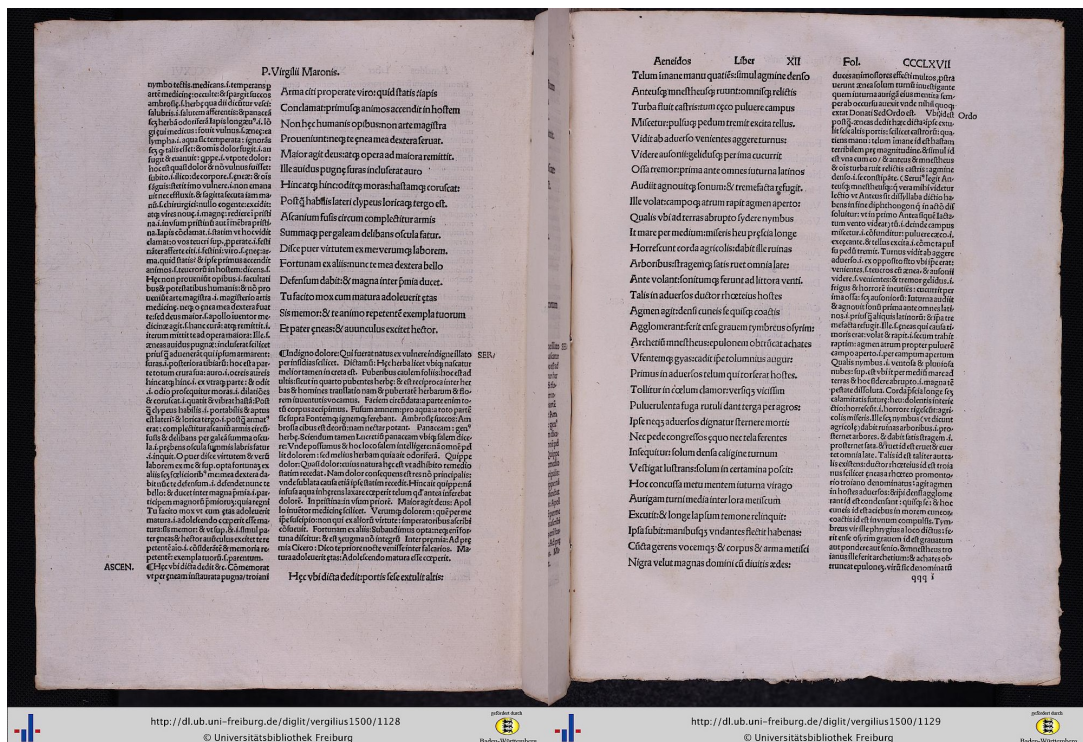


Figure 8: UB Freiburg, Ink. 4. D 7672 fol. 366v-367r, featuring *Aen.* XII.425-73; image has been cropped. This is a typical layout in Ascensius's edition for the later books.

This imbalance is the product of the division between the first and last six books of the *Aeneid* which has become codified in critical traditions of Virgilian reception. 'Interpretation of Books I through VI followed the outlines established by ancient commentaries on Homer's *Odyssey*', and tended to be weightier, whereas 'Commentary on the second half of the *Aeneid* was less focused', and more sparse (Wilson-Okamura, 2010, p.191). Based on this, Wilson-Okamura (2010, p.217), in his examination of the reception of Virgil's works in the Renaissance, has suggested there are two different types of readers of the *Aeneid*: those who are twelve-book readers—who read the entirety of the *Aeneid* as a cohesive whole—and those who are six-book readers—who either focus entirely on the first six books, or who read the work as a bifurcation. It is the tradition of six-book reading that causes the transformation of layout evident in Ascensius's text. However, this does not necessarily mean that Ascensius himself was a six-book reader, especially considering how he writes commentary for the entirety of the *Aeneid* and includes Maffeo Vegio's *Supplement*. It does, however, indicate that this division was a fixture in the study of the *Aeneid* at the time, resulting in more resources being available for Books I-VI than for Books VII-XII.

It is this paper's contention that this change in layout affects the change in Douglas's translation noted above, by means of Douglas's interaction with Ascensius's commentary. Bawcutt (1973, p.222) observes Douglas's original annotations within the text are regularly sourced from Ascensius's commentary. This work confirms this by examining all translation units in the *Eneados* with a line ratio greater than 4 and their available commentary resources in Ascensius's (1501) edition, determining that 86% of these units sourced their expansions directly from Servius's and Ascensius's commentaries ($p < 0.001$, pairwise proportion test). For example, Douglas uses both Ascensius's and Servius's commentaries when translating Virgil's brief reference to Castor and Pollux:

Si fratrem pollux alterna morte redemit. (Virgil, 1501, VI.121)

Or gif Pollux redemyt his broder Castor,
As he that was immortal get and boyr,
Partyng with him his immortalite,
Athir for other sufferand forto de,
That ych of thame, by coursis alternate,
Sa oft gais and returnys that gait. (Douglas, 1957-64, VI.2.87-92)

The expansion ‘immortal get and boyr’ is almost certainly from Servius’s note ‘Helena et pollux de ioue nati immortales fuerunt’ (1501, fol.176^r) or ‘Helen and Pollux were the immortal children of Jupiter’. Likewise, Douglas’s loose translation of ‘alterna morte’ as ‘athir for other sufferand forto de’ is probably from Ascensius’s note ‘morte alterna id est quam alternatim pro illo obit vt ille vicissim pro polluce’ (1501, fol.176^r) or ‘reciprocated death, that is, how by turns Pollux dies for the other, Castor, so that, in exchange, the other may do the same for him’.

Similarly, Douglas mines Ascensius’s and Servius’s commentaries to find synonyms for certain words. For instance, in his translation of ‘Et nos et tua dexter adi pede sacra secundo’ (Virgil, 1501, VIII.302) (‘come to both us and your offerings by good speed’), Douglas (1957-64, VIII.5.59) translates ‘secundo’ both as ‘happy’ and ‘prosper’—the latter of which probably comes from Servius’s (1501, fol.254^r) gloss ‘prospero omine’ or ‘favourable omen’. In addition, Ascensius (1501, fol.254^v) glosses ‘adi’ (‘approach’), as ‘aggredere’ (‘approach’, ‘come here’), which matches up with Douglas’s double translation ‘wissy, at thou may cum heir’ (1957-64, VIII.5.58). In this way, Douglas uses Ascensius’s text as a glossary and encyclopaedia and incorporates it into his translation, thus impacting his textual proportions. This, coupled with the increase in expansions throughout the *Eneados*, suggests that as Douglas translates, he relies more and more on Ascensius.

However, this is complicated by the fact that Ascensius’s commentary decreases over the course of his edition. Rather than the amount of commentary available, it is layout that facilitates Douglas’s expansions, as Ascensius’s longer sections and shorter general commentary in the later books allow for easier cross-referencing because the text and the relevant commentary frequently appear on the same or facing page. Figure 9 shows this effect on a larger scale throughout the *Eneados*, indicating the number of sources Douglas uses and their location in respect to the content they explain. Commentary on the facing page of the text of the *Aeneid* tends to be referenced the most, with material that is on the same or backing page more commonly unrecognised.

While these results are not significant ($p = 0.30$, Fisher’s Exact Test, etc.), this preference is nevertheless noteworthy considering how Ascensius presents commentary relative to each *Aeneid* excerpt. Servius’s commentary always appears underneath the excerpt, while Ascensius’s own commentary runs alongside. Moreover, Ascensius’s commentary has three separate—though not always formally distinct—parts that always appear in the same order: first, a general summary of the excerpt (see White, 2013, pp.79-81), followed by quotations by Donatus (late 4th-early 5th c. AD) and sometimes Beroaldo (1453-1505) (see White, 2013, p.221), ending with a word-by-word dissection of the passage introduced by the phrase ‘ordo est’ (‘the order is’) (see White, 2013, pp.79-80). The two sources of commentary Douglas uses most are Servius’s commentary and Ascensius’s word-by-word dissection, which both always occur after the text they refer to, rather than beside it, and thus rarely occur on the same page as the text. This makes the high results for same page commentary striking.

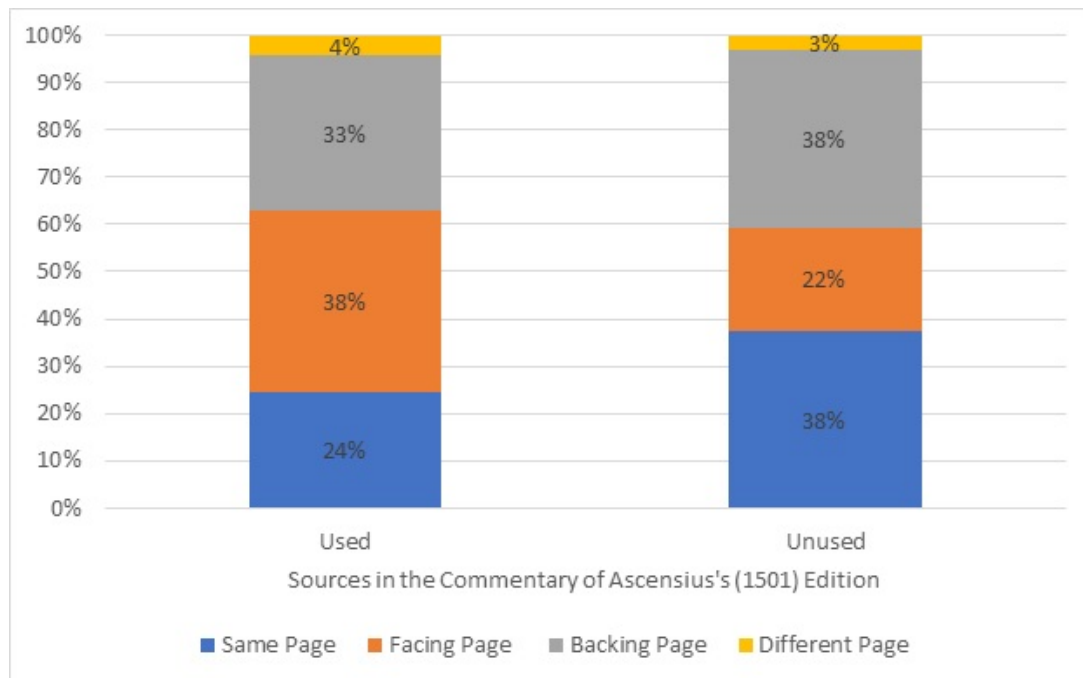


Figure 9: Percentage of sources used and not used in selected translation units with very high (≥ 4) line ratios categorised by their position relative to the text they explain. Results are not significant ($p = 0.30$) according to a Fisher's Exact Test using the Monte Carlo simulation with 10,000 repetitions.

In this way, layout proves to condition Douglas's increasing use of expansions in the *Eneados*, despite the decreasing amount of commentary available, as the longer excerpts of the *Aeneid* and shorter commentary allow Virgil's text and relevant glosses to occur in closer proximity to one another. This ensures that whatever commentary is available gets accessed more. In doing so, Douglas effectively redresses the imbalance in Ascensius's commentary by weighing his translation more towards the final six books. While this could just be an accident of reading, the fact that Douglas's later Prologues are also longer than his earlier ones suggests that, to a certain extent, this is a conscious trend. Douglas thus proves to be a twelve-book reader, who is interested in creating a uniform reading experience for his audience—though as a result his own translation is not uniform.

This practice indicates a real concern with the integrity of the text that not many scholars have identified in Douglas's behaviour before and is symptomatic of a more humanist impulse (see Royan, 2015, p.126). Many of Douglas's interpolations are in service to the text and are inspired by Ascensius's own behaviours in the source text. His programme of additions within his translation—and arguably within the Prologues as well—correct six-book readings of the *Aeneid* that cause an imbalance of commentary. While it is true that Douglas does not imitate Virgil's rhetorical style, he does preserve structural aspects of his text as laid out by Ascensius, which is arguably evidence of a philological impulse in Douglas's work that is sympathetic to Bembo's ideas on imitation. Of course, this structural fidelity is complicated by the fact that Douglas ignores or alters other aspects of Ascensius's layout—namely the book boundaries between Books I and II, V and VI, VI and VII, and VII and VIII—most likely to de-problematise Virgil's paganism (see Royan, 2015). Nevertheless, both the examples presented here, and the alteration of book boundaries are evidence of active

interest in how Classical texts are transmitted and how that might be done accurately and authoritatively in the vernacular—which is very much a humanist interest, albeit a vernacular one, as Bawcutt, (1976, p.36) argues.

6 Benefits and Challenges of an Interdisciplinary Method

As the previous case study has demonstrated, the method pursued in this project has revealed numerous aspects of the *Eneados* that have either been unacknowledged or casually observed but not meticulously studied. For example, while Bawcutt (1976, p.137) recognises that Douglas tends to build his translation around Virgil's lines, with one Scots couplet often translating one Latin line, this work treads new ground by discovering how Douglas's translation method shifts over the course of the *Eneados*. This in turn can shed new light on the order in which he composed the Books, Prologues, and Comment of the *Eneados*.

Moreover, it builds on Bawcutt's (1973, 1976) work on Douglas's extensive use of the commentary and the impact of certain features in Ascensius's (1501) edition on the *Eneados*, finding that Ascensius's layout influences Douglas's translation practice. This correlation has important implications, attesting that translation and reading are analogous activities, where factors that impact the latter also affect the former. It also indicates that Douglas is sensitive to aspects of his source text's presentation, demonstrating an instinct akin to *imitatio* in that he attaches importance to surface level structures of language and presentation and recreates them. However, the fact that he also revises these structures on occasion reveals an interest in textual editing and the sense of the work as a complete book that is rather prescient of modern sensibilities (see Griffiths, 2009, p.185).

In summary, this method has succeeded in supporting many claims of well-respected scholars—especially Bawcutt, who has done the most comprehensive work on Douglas—while at the same time making new discoveries, which arguably could not have been made without the use of an interdisciplinary methodology. However, that is not to say that this method is not without its challenges or pitfalls. Chief among these is the gap between Medieval content and modern linguistic and computational tools that requires creative traversing. For example, given the nested structure of XML, where an element cannot interrupt another element that it contains, alignment in these files was determined by line, as line elements, as well as word elements, were nearly always contained within a translation unit. Such practice tacitly assumes that Douglas had a similar respect for line boundaries. This is not a huge drawback; there is a fair amount of evidence that Douglas *does* structure his translation around lines, given that he often provides a neat Scots couplet for one Latin line. However, this could be considered a circular argument and it would be worth re-examining those books (Books I and XIII) where equivalency does not as neatly conform to line breaks to investigate whether Douglas models his translation around other units of meaning. Likewise, while it is extremely likely that Douglas does attribute special significance to the line as a unit of meaning, it is necessary to remember that this does not hold true for Virgil himself, whose clauses often extend beyond line limits.

Similarly, at the time of the development of the digital resource used here (c. 2015), there was no easy way to automatically tag images for layout characteristics. Tyrkkö's (2017) work with *ImageJ* and *ImagePlot* and Varila's (2016) use of *Juxta* had not yet been published. This project devised its own transparent layout annotation system that tracked major codicological breaks in the source text—as described above. However,

this system had to be implemented manually, which was labour-intensive, and thus did not capture other more minute aspects of layout that may have been useful—such as the appearance of paraps and frequency of headings. Again, this could be worth revisiting; more overlaps between Ascensius's layout and Douglas's translation may be found.

Finally, it must be admitted that the 'corpus' used here is too small (259,391 words total) and its range too limited (comprising of only three texts) to make any kind of universal claim concerning Douglas's language. For that reason, quantitative methods are used mainly as a means of exploring the corpus, of isolating certain elements of Douglas's translation and tracking them across the text. The approach taken here is essentially a 'formalist' or 'bottom-up' one, comparing the translation to its source at their most basic, linguistic level, and then working up to the 'bigger picture' issues.

However, many DTS theorists do not believe that this is an appropriate way to approach translation, as it divorces translation from its greater context. Evans, (1994) laments the lack of interest in cultural theory in favour of 'historical specificity' (27), arguing a need for 'understanding how subjects are constructed through and within various nexuses of power-relations' (31). Based on reasoning such as this, Snell-Hornby, (1987, pp.96-97) argues that 'textual analysis must proceed from the macro to the micro level' with 'the importance of individual items ... decided by their function in the text'. Baker (1992, p.6) also admits that 'the top-down approach is the more valid one theoretically', but offers the concession that, practically, a bottom-up approach can be more valuable, because 'meaning is realised through form and without understanding the meanings of individual forms one cannot interpret the meaning of the text as a whole'. In other words, a bottom-up approach can be effective in providing the detail needed to realise a top-down approach in the first place. Again, given the lack of complete analyses of Douglas's translation, it is arguably this type of detail that scholarship on Douglas needs currently.

In this way, this project has proved that an interdisciplinary method drawing on literary and linguistic methods, and traditional and digital techniques can be very productive when applied to medieval texts—especially large, complicated ones that defy easy analysis. When digital, linguistic, and statistical analyses are balanced with respect to literary, codicological, and historical context, they can forge a powerful tool that can provide new perspectives on even well-studied texts and reveal hidden implications. Moreover, the adoption of this method produces a variety of digital tools and texts that help to make the study of medieval literature and language more accessible and, consequently, more relevant.

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