

A STRUCTURAL ARRANGEMENT OF TEXT TO FACILITATE READING

Abstract: This article describes a method of arranging text by indenting phrases and clauses on separate lines as an aid for students, especially in sight-translation. The method is explained using passages from Descartes, Caesar and Cicero. Examples also illustrate applications involving gapping, rhetorical devices, paragraph-structure and style.

Given the problems Latin students have reading long, complex Latin sentences, I have experimented with what method would most effectively help students to learn to read for understanding, following the structure of the Latin as it naturally and logically progresses, rather than using the common word-for-word or hunt-and-puzzle translation methods.¹ Teachers in ancient Rome pre-read a passage orally to students before they began to study it, so that the students could hear it inflected orally and mark their texts, which did not generally include word-division or punctuation.² This oral pre-reading method is of limited usefulness, however, in modern classes, where class time is limited and students often prepare their homework passages hours (or days) later. My inspiration for a method, similar to inflected oral pre-reading, that represents the structure of the Latin on the printed page came from my discovery that some texts from the post-classical period were produced with line-breaks matching clauses and phrases (*per cola et commata*).³ The benefit to reading comprehension of having line-divisions correspond to sense-units has been confirmed by modern

¹ The problem is not just in reading complex Latin sentences, but is related to problems in comprehending complex sentences in English. See Mulroy (2003) for an insightful historical review and critique of modern educational systems, esp. 88–103 comparing methods of diagramming. I use a simplified method of diagramming clauses with diagonal lines on the board in class, but the method discussed here is easier for printed handouts and always follows the original word-order exactly. See also Hoyos (1997) on the difference between common translation methods and real reading for understanding.

² Marrou (1956) 279.

³ My thanks to James O'Donnell, who first introduced me to the idea and encouraged my development of it, to the anonymous *CJ* reviewers and the editor, S. Douglas Olson, for their helpful suggestions and comments, and to Timothy Beck for his work on formatting this article.

research, as will be discussed below.⁴ Using these ideas, I developed a method of arranging a text by its structure using line-divisions and indentations, while retaining the original word-order. The line-divisions break the text into meaningful chunks and help students see which words do (and do not) go together. The indentations help students see how the different parts relate to each other and flow on (or transition to new ideas) to form connected meaning. The system has been very popular with my students, increasing their confidence, as well as their reading speed and ability. After reviewing the ancient background to my method and some relevant modern research, I will describe it in greater detail, using examples from Descartes, Caesar and Cicero.⁵

The ancient Greeks and Romans recognized that sentences are formed from smaller units, which they called *cola* (longer units, sometimes equivalent to clauses) and *commata* (shorter units, corresponding generally to phrases). Donatus, the 4th-century grammarian, described three kinds of *distinctiones*, or punctuation marks, used to separate sentences or parts of sentences (*cola et commata*).⁶ He related his description of terms to sense and to pauses in oral reading. Pompeius, in his commentary on Donatus' *Ars Grammatica*, used the related verb *distinguere* for putting marks in a text as an aid to reading.⁷ Jerome, a student of Donatus, used the same verb (*distinximus*) for his method of dividing the text by phrases and clauses on separate lines in his new revised translation of Isaiah. He did this, he said, "as an aid to those reading."⁸

Nemo cum Prophetas versibus viderit esse descriptos, metro eos aestimet apud Hebraeos ligari et aliquid simile habere de Psalmis vel operibus Salomonis; sed quod in Demosthene et Tullio solet fieri, ut per cola scribantur et commata, qui utique prosa et non versibus conscripserunt, nos quoque utilitati legentium providentes interpretationem novam novo scribendi genere distinximus....

⁴ Cf. the use of printed texts divided by sense lines for unison oral reading of liturgy in churches.

⁵ I have used the same method for Greek texts with equal success.

⁶ Keil (1864a) 372.15–23. The *distinctio* marked the completion of a thought (*periodus*); the *subdistinctio* marked a separation almost at the end of a complete thought; and the *media distinctio* was a mark about halfway through a thought, where breathing was necessary.

⁷ Keil (1864b) 132. The marks included accent marks, marks of vowel quantity, and marks connecting or separating syllables open to misinterpretation as to word division.

⁸ "Prologus Hieronymi in Isaia Propheta" Fischer (1969) 1096. This edition is printed two columns per page, with line breaks instead of punctuation. Cf. Marrou (1956) 166 with 405 n. 13 (fragments of portions of the *Iliad*, identified as a school text, with the line-divisions marked).

No one, when he has seen the prophets written out in lines, should think that they were in meter in the Hebrew and that they have something similar to the Psalms or works of Solomon; but, as Demosthenes and Cicero, who certainly composed in prose and not verses, are usually written by clauses and phrases, I also, providing for the aid of those reading, have divided up my new translation by a new way of writing....

Early in the 20th century, Gilbert Peterson printed an edition of "Cicero's Oration for Archias the Poet Arranged in Sense Lines," about the same time that Eduard Fraenkel was doing his pioneering work in colometry.⁹ In 1979, Charles Robbins called for textual editions *per cola et commata*, concluding (62):¹⁰

This kind of colometric arrangement can be made, in varying degrees, with all the classical prose writers—and ought to be made. It would be doing Virgil and Shakespeare a grave injustice if we were to print their lines in a continuous fashion without regard to verses. It is equally an injustice to classical prose writers to print them straight out, using only grammatical punctuation, in disregard of the carefully composed cola and periods. What a tremendous help it would be to students in learning and to teachers and scholars in explaining the classics if we were to write them out, in Saint Jerome's words, *per cola et commata*.

Modern research in linguistics has confirmed that when line-breaks coincide with semantic breaks, people not only read faster but comprehend texts better, even in their native language. The processing of these constituent units in working memory is the basis of reading.¹¹ We read "a chunk" at a time. Once the meaning of a chunk is processed, the individual words are cleared from working memory, and the idea is stored as meaning; the reader then goes on, using expectations about what is coming, based on the preceding, to help process the next chunk. Breaking the text into meaningful chunks thus helps students to read using natural sense-units, as opposed to more common translation methods, such as translating individual words, trying to intuit the sentence whole, or hunting and picking to reconstruct the sentence in English sentence form. This chunking process helps limit the amount of material in working memory at one time and encourages building meaning progressively, hence predicting, which in turn aids in the analysis and comprehension of

⁹ Fraenkel (1932), followed by Fraenkel (1965) and (1968); Peterson (1933), repr. (1962).

¹⁰ For modern study of colometry, see also Habinek (1985). Compare Stanley Iverson (1993), "Computer-Assisted Preparation for Cicero," presented at ACL; his method included a system of different fonts (which, however, slows down reading) for, e.g., subject and direct object.

¹¹ Graf and Torrey (1966) 83–4 (cited in Clark (1977) 50–7). See also Habinek (1985) 13–14.

the next chunk. Reading for meaning in context thus helps students make better choices, particularly when there are multiple possibilities for what words may mean or how grammatical forms might be interpreted.

My basic system is to divide the text into meaningful units consisting of phrases or clauses, with each unit generally on a separate line. Short, closely related units may be combined on one line; spacing and the degree of pause in oral reading are often useful guides in determining whether to combine units in this way.¹² The relationship of the units to one another is shown by lining up parts or by indentation.¹³ Main clauses generally begin flush left.¹⁴ Subunits (e.g. long prepositional phrases) and subordinate clauses and their sub-units are indented.¹⁵ Parallel items, such as correlatives and compound phrases or clauses, are lined up under one another. Subordinate units may be lined up under their key related word (e.g. *ut* result clauses lined up under *tam*; relative clauses under their antecedent; long appositive phrases under their noun head) instead of indenting the normal distance. Sometimes a smaller indent may be used to indicate subordinate indentation while keeping the clause more or less in line with its related word, if that word is first in its line. The resumption of an interrupted main clause is lined up, if possible, with the point where it left off (reminding the reader that an incomplete first part was left hanging).¹⁶ This system of division and indentation helps students follow how each part is related to the previous and/or following part(s), where a new clause starts, and which clause they are in. The arrangement thus assists students in following the logical flow of the structure and in seeing how the structures build on one another to create the meaning of the sentences, paragraphs and larger sections of text.

¹² Smaller units within a larger unit on the same line may be marked off by vertical lines (|). Cf. Cic. *Ver.* 4.55.122–3a, line 16 (below).

¹³ Take care to check the indentation when fonts are enlarged for overheads. For websites, I recommend using one of the Courier family of fonts or another font in which all letters are the same width.

¹⁴ On occasion, one may have to choose between beginning the main clause flush left and indicating a relationship with another word; cf. Descartes line 11 (below) with n. 18. Sometimes the main clause consists of a single word following a subordinate clause; here again, one must choose whether to separate the main clause on its own line flush left or to put it on the same line with the related subordinate clause. Cf. Descartes line 13 (below) with n. 20.

¹⁵ One tab for each successive unit, in general.

¹⁶ If there is insufficient margin on the right side, landscape format (under Page Setup in Word) may solve the problem. One can also use marginal designations, such as Hoyos' (1997) 36–8 clause # and part, e.g. 1A (first part of main clause) ... 1B (resumed part).

In the following sample passage from Descartes,¹⁷ for example, the title (which is centered) is divided into three lines:

DISSERTATIO DE METHODO
RECTE UTENDI RATIONE
ET VERITATEM IN SCIENTIIS INVESTIGANDI

The second and third lines are both genitive gerund phrases going with *methodo*. The line division helps keep the reader from using *et* to add another noun with *utendi* rather than starting a new unit. The chiasmic word-order, with the noun object first in the second unit, is especially misleading for less experienced readers.

The passage itself begins (line 6, after a section heading) with a long, complex sentence comparing the problem of a multitude of laws with the multitude of precepts in logic:

6 Atque ut legum multitudo saepe vitiis excusandis accommodatior est,
quàm iisdem prohibendis,
adeo ut illorum populorum status sit optime constitutus,
qui tantùm paucas [leg-es] habent,
10 sed quae accuratissime observantur;
sic pro immensa ista multitudine praeceptorum,
quibus Logica referta est,
sequentia quatuor mihi suffectura esse arbitratus sum,
[si] modo firmiter & constanter statuerem,
15 ne semel quidem ab illis toto vitae meae tempore deflectere.

The initial *ut* clause is adverbial, as the following *sic*, with which it is aligned, indicates.¹⁸ Line 7 adds a comparative clause,¹⁹ followed by *adeo* leading into an *ut* result clause (8), followed by a relative clause (*qui...* (9), lined up under its antecedent *populorum*), which is in turn followed by another relative clause (*quae...* (10), referring to the understood *leges*). The *sic* main clause (11) begins the comparison with a long prepositional phrase (given its own line), which includes *multitudine praeceptorum*, in chiasmus with *legum multitudo* (line 6),

¹⁷ I chose the sample from Descartes because it is relatively unfamiliar, the structure is complex, the content is relevant and it is representative of non-fiction Latin style. The text is from Adam and Tannery (1965) 550 (section II).

¹⁸ I have chosen to emphasize the semantic structure of the correlation of the *ut* and *sic* clauses rather than the syntactic distinction between subordinate and main clause. If the main clause (beginning with *sic*) were placed flush left, bold face could be used to highlight the relationship between *ut* and *sic*.

¹⁹ If there is space, the *quam* may be lined up under the comparative (as in lines 22–3 below). Since in this case there was not, I lined up the parallel datives *vitiis excusandis* and *iisdem prohibendis*. Note the grave accent on *quam*, distinguishing it from the relative. This was common practice (as were grave accents on the endings of adverbs and some other ambiguous forms) in Renaissance editions of Latin texts, as followed by Adam and Tannery (1965). I have not included all these marks.

the focus of the comparison. After a relative clause (*quibus...* (12), referring to *praeceptorum*), the indirect statement *sequentia ... esse* (13) gives Descartes' response to the problem of too many laws/precepts, followed by the main verb (*arbitratus sum*).²⁰ This is qualified by a condition (14–15), including a long infinitive phrase indented on a separate line (15).

Descartes then sets out his four precepts, which are indicated by *primum*, *alterum*, *tertium* and *postremum*. The spacing, with these lined up flush left, highlights the structure of the text, both reminding the reader that there was to be a list of four and marking where she is in the list as she goes along:

- Primum [] erat
 ut nihil unquam veluti verum admitterem
 nisi quod certo & evidenter verum esse cognoscerem;
 hoc est,
 20 ut omnem praecipitantiam atque anticipationem
 in iudicando diligentissime vitarem;
 nihilque amplius conclusione complecterer,
 quàm quod tam clare & distincte rationi meae pateret,
 ut nullo modo in dubium possem revocare.
- 25 Alterum,
 ut difficultates
 quas essem examinaturus,
 in tot partes dividerem,
 quot expediret ad illas commodius resolvendas.
- 30 Tertium,
 ut cogitationes omnes
 quas veritati quaerendae impenderem,
 certo semper ordine promoverem:
 incipiendo scilicet a rebus simplicissimis & cognitu facillimis,
 35 ut paulatim & quasi per gradus
 ad difficiliorum & magis compositarum cognitionem
 ascenderem;
 in aliquem etiam ordinem illas [res] mente disponendo,
 quae se mutuo ex natura sua non praecedunt.
- 40 Ac postremum,
 ut tum in quaerendis mediis,
 tum in difficultatum partibus percurrentis
 tam perfecte singula enumerarem
 & ad omnia circumspicerem
 45 ut nihil a me omitti essem certus.

²⁰ As these words represent a single periphrastic verb with the indirect statement functioning as the direct object, I have put them on the same line. A vertical line | could be added to set off the main verb.

Each precept is constructed with an *ut* noun clause functioning as the complement. In the first is a restatement (20–1), initiated by *hoc est* (19), of the idea of only accepting as true what is certainly so (lines 17–18). Line 22 adds (*-que*) a second part of the *ut* clause (as indicated by the indenting), which is developed with a comparative clause (23, lined up under *amplius*) and an *ut* clause (24), this time expressing result, as the indentation lined up under *tam* makes clear.

The content of the second (*alterum* 25) precept is especially relevant to my arrangement. Descartes' second precept states, "that I divide the difficulties, which I was going to examine, into as many parts as was expedient for resolving them more conveniently." That is exactly what my arrangement of text aims to do: to divide the text into as many parts as is expedient for understanding it easily and completely. Arranged structurally, the *ut* clause (26) resumes (after 27, an embedded relative clause) in 28 (*in tot*), which is lined up with where the clause left off in 26. The correlative *quot* (29) is lined up under *tot*.

The third (*tertium* 30) precept (of doing things in a certain order)²¹ follows a similar syntactic pattern (*ut* clause (31, 33), with embedded (32) relative clause), but continues with an explanatory gerund phrase (34) leading to a long purpose clause (35–7). Here I put the compound prepositional phrase on a separate line (36). A second (chiastic) gerund phrase and its related relative clause follow (38–9).

The fourth (*postremum* 40) precept, which has to do with reviewing and checking your work (both forest and trees), has parallel *tum ... tum* (both ... and, 41–2) prepositional gerundive phrases and a result clause (45, set up by *tam* 43).

This method of arranging the text, with parallel units lined up, is particularly useful in illustrating gapping, a feature especially common in Caesar.²² Depending on the level and experience of the students and the passage, I use different aids for gapping. For example (from the beginning of Caesar's *de Bello Gallico*):²³

Gallia est omnis divisa in partes tres,	
quarum unam [part-] incolunt Belgae,	
aliam [] Aquitani,	
tertiam [] ei],	
5	qui ipsorum lingua Celtae [appellantur],
	nostra Galli appellantur.

Initially, I may include the omitted word (or base) in brackets (2). Later, I may put empty brackets (3, 4) to indicate gapping, letting the

²¹ Such as reading a Latin text.

²² On gapping in Latin, see Panhuis (1980); Markus (2004). By "gapping," I refer to the omission of any word, not just verbs, in parallel constructions.

²³ Note also the initial partitive genitive (*quarum*) followed by its three successive respective parts, lined up, forming a tricolon.

18–19). If the reader is aware of Cicero's use of parallel structure as part of the compare-and-contrast paragraph style, which the line arrangement highlights, she may expect (after the first main clause with its concessive *tamen* marker) that the second *cum* clause will also be concessive.

Cicero then moves on to the temples each man had vowed. There is another parallel contrast of "Marcellus" (24–31) and "Verres" (32–6), each with a *qui* relative clause and a resumptive *is*. The second *qui* clause (33–5) also has a contrastive *non* part, referring to Marcellus (*ille*) compared to Verres (*sed...*). Cicero concludes this section with a briefer *ille* vs. *hic* (37–8, and the virgin Minerva vs. prostitutes). The parallel contrasting structure is easier to follow and keep track of when the text is arranged in accord with its parallel structure.²⁸ In general, it is easier to follow the progression of sentences and to see the reasons for particular word-orders. The arrangement helps provide the overview of the forest, making it harder to become lost in the trees.

The appearance of the text on the page is an aid to the study and comparison of style.²⁹ First, the structural arrangement highlights many rhetorical features. For example, anaphora is easy to see when the same word is lined up, usually at the beginning of successive lines (e.g. Cicero *nihil ... nihil* 11–12, *tot ... tot* 21–2 above). Tricola are lined up on separate lines, and *tricola aucta* have a visibly longer concluding line.³⁰ For chiasmus, the *chi* can often be drawn right in the text (e.g. Cicero *hoste aliquo* 6; *barbaris praedonibus* 8 above).³¹ Comparisons can also be made between authors or between styles used by the same author in different sections. How much use does the author make of rhetorical features? Does he employ more complex periodic sentences with subordinate clauses embedded inside other clauses, resulting in a jagged left edge? Or is the structure more linear, with successive individual clauses forming diagonals on the left (as typical of Caesar)? Are there long sentences with multiple indented subordinate units going further and further to the right, which is more common of narrative (*docere*) sections? Or is the structure more linear and parallel, with series of shorter units

²⁸ One can also add marginal brackets connecting the parallel contrasted parts.

²⁹ Cf. Habinek (1985) 15, 19–20 and esp. 137–200, on the relationship of structure to style, and structure as a means of comparing authors.

³⁰ See Caes. *BG* (quoted above) lines 2–6 describing the *partes tres* and Cic. *Ver.* (quoted above) lines 3–8. Sometimes this arrangement results in one word per line, an exception to the norm and more properly called *tri-commata* rather than *tri-cola*. E.g., Caes. *BG* 1.1.2a:

Hi omnes lingua,
institutis,
legibus inter se differunt.

³¹ Other chiasms mentioned above: Descartes' title, lines 6, 11 and 38–9.

closer to the left, as is more common in persuasive (*persuadere/movere*) sections?³² Comparisons can thus be drawn between authors (such as Cicero and Caesar), or between different genres or different parts of a work.

Pedagogically, students using text arranged this way can sight-read together in class, in groups, or individually for homework. Once students become accustomed to the method, they can be given standard straight text to practice analyzing, dividing up, and arranging by themselves, either in a group or individually. This can lead to good discussions about structure and rhetorical interpretation. When I introduce text arranged this way for the first time, I usually give assignments with leading questions about the structure, providing an opportunity for active learning and self-discovery. Some students find it helpful to have a written description of how the system works, with examples in English (e.g. the preamble to the United States Constitution, or a translation of part of Magna Carta). I have also used a description in English of the method, arranged using the same method.

Other advantages are related to the extra space on the page. The very appearance gives students more confidence than a block of solid black text does. Students are more willing to translate directly from the Latin with side notes or separate vocabulary lists, rather than relying on separate written translations. The shorter lines offer space for the teacher to provide notes, whether in the margin³³ or on a facing page (as in a course packet), and keep the notes more closely aligned with the text itself. Students may also use the room in the margins to add notes themselves, rather than trying to cram in interlinear notes/translations.

In short, this arrangement helps keep the focus on the Latin (or the Greek) text. Students are better prepared, and can read and translate faster in class, and we cover more text in the course of the semester and do more sight-reading.

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³² Compare, e.g., the Cicero passage discussed above with the beginning of Cic. *Ver.* 5.64.166:

Hoc teneo,
hīc haereo, iudices.
hōc sum contentus unō,
omitto ac neglego cetera;
...

³³ See Cic. *Ver.* (quoted above) lines 1, 5, 8, 10 and 16.

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